AN ARCHAEOLOGICAL SURVEY OF SELECTED PORTIONS OF THE LOWER AND MIDDLE SHEYENNE RIVER BASIN IN NORTH DAKOTA

by

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This study is a report of archaeological field work conducted in eastern North Dakota in October, 1977. Archaeological surveys were conducted in seven areas along the Sheyenne River. The purpose was to identify the number, types and qualities of cultural resources in the lower Sheyenne River basin below Baldhill Dam. Fifty-six prehistoric and five historic sites were recorded. The majority of the prehistoric sites were open or camp sites. One is an apparently undisturbed village site with four possible earth lodge depressions, 13 sites are believed to be burial mounds.

Forty-five sites were recorded in flood control alternative areas; however, a summary of flood control alternatives indicates that a majority of sites outside the project area may be impacted as well.

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ABSTRACT

This study is basically a report of archaeological field work conducted in eastern North Dakota (Cass, Griggs, and Ransom Counties) in October 1977 for the St. Paul District, U.S. Army Corps of Engineers, Contract Number DACW37-77-C-0135.

Archaeological surveys were conducted in seven areas along the Sheyenne River. These areas are part of a large number of flood control alternatives being studied by the Corps of Engineers in eastern North Dakota.

Basically, the purpose of this survey was to identify in a general manner the number, types, and qualities of cultural resources in the lower Sheyenne River basin below Baldhill Dam. The fieldwork was based on a literature review conducted by Vehik and Vehik (1977), and consisted of informant interviews and pedestrian reconnaissance of selected areas of the Sheyenne River valley.

Fifty-six prehistoric and five historic sites were recorded. Six sites were recorded in Cass County, 16 in Griggs County, and 39 in Ransom County. The majority (40) of the prehistoric sites were open or camp sites, one is an apparently undisturbed village site with four possible earth lodge depressions, 13 sites are believed to be burial mounds, one site was an earthen ditch or embankment, and one was a tipi ring site. The historic sites consisted of dugout depressions and a flour mill.

Tentative cultural identification of prehistoric sites consist of five preceramic sites, 28 Woodland sites, seven sites having Woodland/Mississippian components, two sites with Mississippian/Plains Village components, five sites with apparent Plains Village components, and one site identified as nomadic Plains Indian.

Forty five sites were recorded in flood control alternative areas established by the Corps of Engineers under this Contract. The other 16 sites were outside of these areas. However, a recent preliminary summary outlining 76 flood control alternatives (Corps of Engineers 1977) indicates that the majority of these sites may also be impacted if these alternatives are implemented.

Recommendations regarding the nomination of any of these sites to the National Register of Historic Places cannot be adequately assessed at the present time. However, recommendations are formulated which might alleviate part of this problem. These include: 1) additional survey, 2) test excavations, 3) development of a regional chronology, 4) definition and comparison of Drift Prarie and Red River valley adaptive patterns through time, 5) geomorphological, palynological, and malacological analyses to study paleo-environments and assist in locating additional sites, especially Paleo-Indian and Archaic sites, 6) historical studies, and 7) the conservation and preservation of cultural resources in the Sheyenne River basin.

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The work reported herein was supported by the St. Paul District, U.S. Army Corps of Engineers Contract Number DACW37-77-C-0135, and the University of Wisconsin-La Crosse. Don Wyckoff of the Oklahoma Archaeological Survey provided photographic equipment and materials and Dr. Robert E. Bell, Department of Anthropology, University of Oklahoma, provided laboratory space without which this report could not have been completed. Their assistance is deeply appreciated.

As in any archaeological report the contribution of numerous individuals is necessary and my appreciation is extended to all of them. Obviously, landowners and informants are of greatest importance to the completion of any archaeological survey and I would like to thank these individuals for their cooperation and permission in surveying their properties. In particular, Mr. Ed Simonsen, Fargo, North Dakota; Everlyn (Shorty) Anderson, Lisbon, North Dakota; Earl Heath, Milnor, North Dakota; and David Lunde, Cooperstown, North Dakota are thanked for their assistance and making our work in North Dakota enjoyable.

Acknowledgments are also extended to Fred Schneider, Department of Anthropology and Archaeology at the University of North Dakota, J. Baker and Bill Brunton at North Dakota State University, and Elden Johnson at the University of Minnesota. Professor Johnson allowed us access to survey files and data that were collected while conducting archaeological survey and testing along the Sheyenne River in 1959 and 1960.

I would also like to acknowledge the assistance of Timothy Baugh, University of Oklahoma, who served as my field assistant and photographed the artifacts included in this report. Finally, I would like to thank my wife, Susan, for providing suggestions, ideas, and corrections for the completion of this report.

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INTRODUCTION

In September 1977 the St. Paul District, U.S. Army Corps of Engineers authorized a Contract (No. DACW37-77-C-0135) with the University of Wisconsin-La Crosse for a cultural resource investigation of selected portions of the Sheyenne River basin, Sheyenne River valley, North Dakota. The counties involved were Cass, Ransom, and Richland. However, upon mutual agreement a portion of the Sheyenne River above Lake Ashtabula in Griggs County was also surveyed.

Essentially, the general purpose of a cultural resource reconnaissance is to identify sites, objects, structures, and ruins of interest or importance to local, regional, and/or national prehistory and history, and to describe and assess their general significance. More specifically, the scope of work stated that the purpose of the contract was to identify in a general manner the number, types, and qualities of cultural resources in the lower Sheyenne River basin below Baldhill Dam. The main objective was to assess existing information through informant interviews and on-the-ground examination of selected portions of the Sheyenne River basin during a field work period of approximately four weeks.

The use of the terms lower and middle Sheyenne River basins in the remainder of the report are arbitrary divisions. The lower Sheyenne basin extends from Township 141 North above Valley City, North Dakota to the confluence of the Sheyenne and Red Rivers (Vehik and Vehik 1977: 15). The middle Sheyenne basin extends from Township 141 North to the Nelson, Eddy and Benson County line juncture (Vehik and Vehik 1977: 15).

The field work began almost immediately after contract authorization at the beginning of October 1977. The field survey was directed by Rain Vehik, University of Wisconsin-La Crosse, who was assited by Timothy Baugh, a graduate student at the University of Oklahoma. The field survey was a continuous operation until the end of the first week of November 1977.

Survey Areas

According to the scope of work a "specific" project construction area has not been established, and a large number of flood control alternatives are being studied and evaluated with particular emphasis on the lower Sheyenne

River basin. For instance, in a recent preliminary summary concerning alternatives for flood dam reduction in the Sheyenne River basin at least 76 possible alternatives are briefly discussed and described. These include levees, diversions, snagging and clearing, wetlands, channelization, drainage ditches, highways and bridges, and dams and reservoirs along the main stems of the Sheyenne and Maple Rivers and their tributaries (Corps of Engineers 1977). Of these alternatives the Corps of Engineers selected and plotted on maps seven areas in the Lower Sheyenne basin and one in the Middle Sheyenne basin to be surveyed (Figure 1).

These areas include:

Area 1. North of West Fargo, North Dakota along the Sheyenne River to the confluence of the Sheyenne and Red Rivers. This included portions of Sections 4, 5, 7, 8, 9, 17, 18, 19, and 20 in T140N, R49W and parts of Sections 10, 11, 12, 13, 14, 15, 16, 21, 22, 28, 33, 34, 35, and 36 in T141N, R49W.

Area 2. South of West Fargo, North Dakota extending to slightly southwest of Horace, North Dakota. It consists of parts of Sections 1, 12, 13, 24, and 25 in T138N, R50W; Sections 6, 7, 18, 19, and 30 in T138N, R49W; Sections 13, 24, 25, and 36 in T139N, R50W; and portions of Sections 6, 7, 18, 19, 30, and 31 in T139N, R49W.

Area 3. Southeast of Kindred, North Dakota extending along both sides of Highway 46. It encompasses parts of Sections 33, 34, 35, and 36 in T137N, R50W; Sections 31, 32, and 33 in T137N, R49W; Sections 1, 2, 3, 4, and 5 in T136N, R50W; and parts of Sections 5 and 6 in T136N, R49W.

Area 4. The area of the proposed Kindred Reservoir in Ransom and Richland Counties, North Dakota.

Area 5. A small section of land southeast of Lisbon, North Dakota along Dead Colt Creek in portions of Sections 32 and 33 in T134N, R55W.

Area 6. This area is southwest of Lisbon, North Dakota along Timber Coulee. One part includes parts of Sections 23, 26, and 27 in T134N, R56W. Another part is a circular area encompassing portions of Sections 29, 30, 31, 32, and 33 in T134N, R56W; Sections 25, 26, 34, 35, and 36 in T134N, R57W; Sections 4, 5, 6, 7, 8, 9, 17, 18, and 19 in T133N, R56W; and Sections 1, 2, 3, 10, 11, 12, 13, 14, 15, and 24 in T133N, R57W.

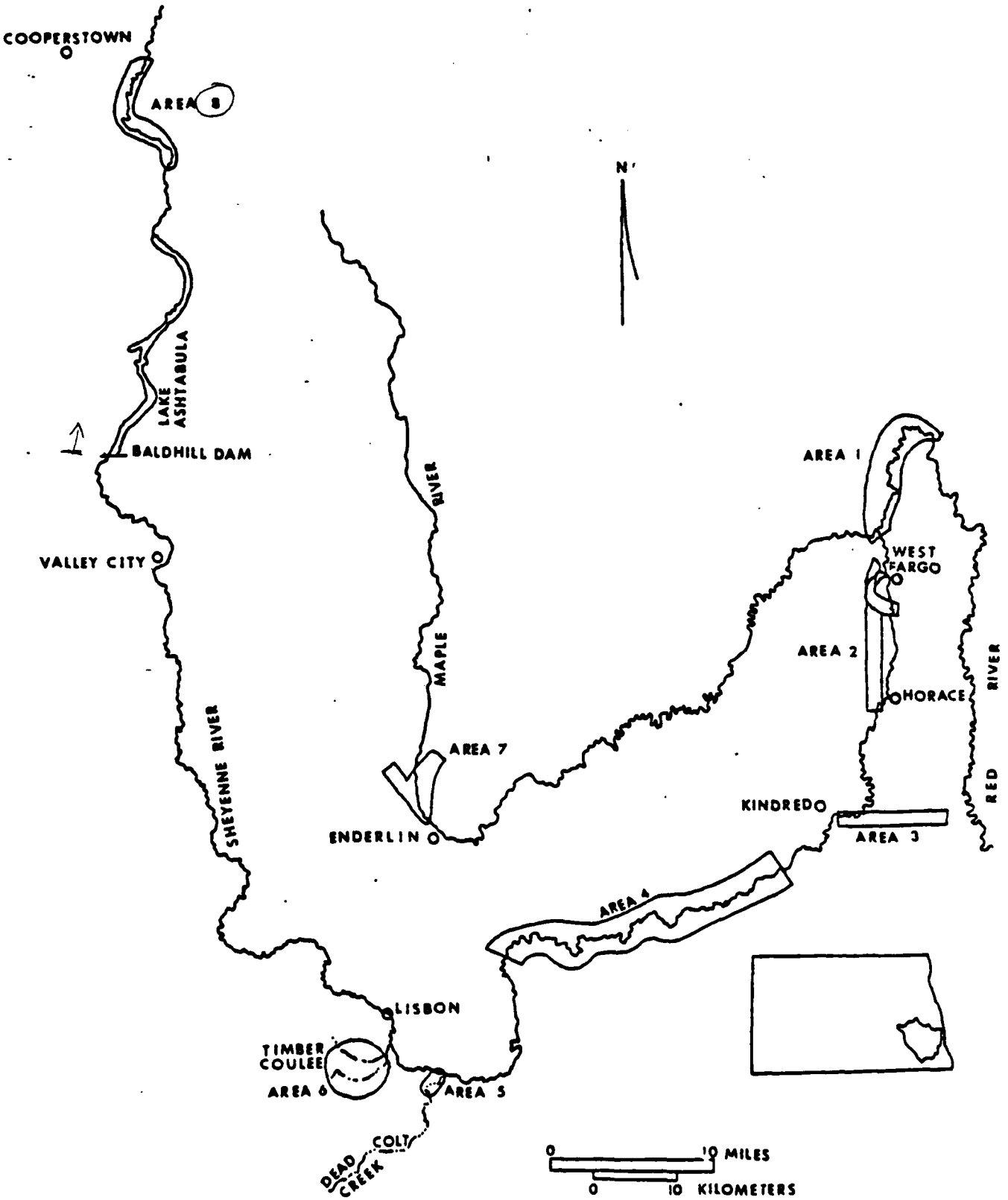

Figure 1. Project Location and Survey Areas in the Sheyenne River Basin.

Area 7. The final proposed survey area in the lower basin was a Y-shaped area, northwest of Enderlin, North Dakota along the Maple River, comprised of Sections 4, 5, 6, 7, 8, 9, 16, 17, 21, and 28 in T135N, R56W. However, this area was not surveyed. The reason was that the Corps of Engineers decided that Area 8 southeast of Cooperstown, North Dakota had a higher priority in terms of their flood control alternatives.

Area 8. An alternative survey area along the Middle Sheyenne River basin southeast of Cooperstown, North Dakota. This encompassed parts of Sections 26, 27, 34, and 35 in T146N, R58W and portions of Sections 3, 9, 10, 15, 16, 21, 22, 23, and 24 in T145N, R58W.

Fieldwork

As mentioned before the main objective was to assess existing information through informant interviews and on-the-ground examination of selected areas of the Sheyenne River basin. Therefore, the following goals were in mind when fieldwork was initiated: (1) To record as many archaeological and historical sites as possible along the Sheyenne River and its tributaries in the areas outlined by the Corps of Engineers; (2) To record as many cultural resources within the Sheyenne River valley as possible in order to better understand site distribution, and the archaeological potential of the area; and (3) to survey as many areas as possible which were recorded in the site leads file at the University of North Dakota and North Dakota State Historical Society (Schneider 1977: 14-16; Vehik and Vehik 1977: 23, 26, and 34). Essentially, site leads are possible site locations derived from manuscripts, amateur collectors, or other sources which have never been systematically field checked or evaluated by professional archaeologists.

The survey was conducted on foot in a systematic manner, but the results do not constitute a statistically valid sample. Each of the selected areas were surveyed beginning with Area 1 and ending with Area 8 southeast of Cooperstown, North Dakota.

An attempt was made to contact every landowner and tenant at least once. The success of this varied from area to area and was dependent greatly to the time of day and harvest conditions. For instance, the sugar beet harvest was at its apex in the vicinity around Fargo, North Dakota and limited the number of people we could find at home. The same situation was true in other areas (especially Area 4) because many landowners were preparing fields for cultivation next spring. A list of landowners and tentants is provided in Appendix I. Summarizing these data, we were able to

contact approximately 63% of the people in Area 1, 75% in Area 2, 58% in Area 3, 65% in Area 4, 50% in Area 5, 65% in Area 6, and 80% in Area 8. However, it should be pointed out that not all of the individuals we tried to contact are on this list since the names of many people were not obtained, and as a result the percentages of people contacted in each area may be inflated. Once these individuals were contacted they were asked whether any archaeological remains had been located or observed on their property. Also an attempt was made to contact collectors in order to obtain additional information about the location of sites. Therefore, if we received an indication from landowners, informants, or the site leads file that archaeological or historical materials had been located we then tried to obtain permission to conduct an on-the-ground examination of these locations.

For the most part, the survey was confined to specific areas outlined on maps provided by the Corps of Engineers. We did deviate from this slightly in the big bend region of the Sheyenne River southeast of Lisbon, North Dakota. The reason for this was due to the large number of site leads in this area, that many early historic sources mentioned visiting mound sites in this area, the proximity of this area to the Biesterfeldt site as well as to the division of the Drift Prairie and Red River valley, and, as it turned out, the fact that some additional flood control alternatives might affect this area.

The amount of land surveyed in any specific area varied to a great degree, however no records were maintained as to the actual amount of land covered. In most cases, uncultivated land was not surveyed unless one of our informants or leads indicated that a site was present. If a site was located then we would survey as much land as possible around the site. Cultivated lands were surveyed in more detail, but in areas around Fargo, North Dakota these tended to be confined to site specific locations. In other areas we attemped to survey as much land as possible around any specific site as long as we had obtained permission from the landowner. In some cases, as in Area 8, we attempted to survey around specific topographic features such as abandoned stream channels or intermittent creeks even though landowners were not aware of specific sites. In any event, the actual amount of land surveyed per section is unknown, but a conservative estimate of from one to ten percent of cultivated lands in each section were surveyed in the various areas.

Throughout this study a site was considered either as "a locus of cultural materials" or "a locus of past human behavior" (Schiffer and Gumerman 1977: 183). Therefore, any area containing cultural materials or evidence of past human activity was considered a site. It should be pointed out that site designations were only given to localities from which we recovered cultural materials or determined evidence

of past human activity such as undisturbed mound sites or tipi ring sites. Once a site was located it was plotted on U.S.G.S. topographic maps, 7.5 Minute Series, and recorded on North Dakota Cultural Resources Survey forms. Since no test excavations were conducted all materials recovered during the survey are from ground surface. All of the recorded sites were numbered sequentially by county. Site numbers were provided by the State Archaeologist.

As many sites as possible were measured using either metric tapes, a range finder, or pacing. Primarily earthenwork structures such as burial mounds were measured. These measurements are not completely accurate and should be considered approximations. Distance and elevation measurements were calculated from U.S.G.S. topographic maps.

Laboratory analysis included washing and cataloging of the recovered materials. Artifacts were measured using a sliding caliper and beam balance. Color notations were derived from soil color charts (Munsell 1975).

All of the cultural materials recovered during the survey will be stored with the Department of Anthropology and Archaeology at the University of North Dakota, Grand Forks, North Dakota.

ENVIRONMENTAL SETTING

Physiography

The study area encompasses portions of Cass, Griggs, Ransom, and Richland Counties along the Sheyenne River in eastern North Dakota. Physiographically, this is part of the Central Lowland Province (Fenneman 1938), and occupies parts of the Glaciated Plains (Drift Prairie) and Red River valley divisions (Bluemle 1977: 3).

Essentially, the Glaciated Plains or Drift Prairie is covered mainly with moranic and glacial outwash deposits (Bluemle 1972: Map). The upland topography is strongly rolling to nearly flat (Cooper 1947: 2). Relief is usually less than 30.5 meters in most places, but may range from 30.6 to 91.4 meters (Bluemle 1977: 3). The Sheyenne River valley is narrow and steep sided with short coulees dissecting its slopes. The area is poorly drained, and, as a result, there are few tributaries to the Sheyenne (Cooper 1947: 2).

The Red River valley is generally considered a flat plain resulting from sedimentation on the floor of glacial Lake Agassiz. The area is gently sloping with less than 7.6 meters of local relief (Bluemle 1977: 3). Surface drainage is very poor with runoff tending to collect in low lying areas (Scoby et. al. 1973: 23). Prior to intensive drainage the area may have possessed many shallow lakes and marshes (Vehik and Vehik 1977: 13). The valley can be divided into the Sheyenne Delta and Lake Agassiz Plain (Klausing 1968: 8).

The Sheyenne Delta, consisting of sand and silt deposits up to 36.6 meters thick (Klausing 1968: v), began to form around 12,000 B.P. and was completed by 10,500 B.P. (Brophy 1967: 104). The majority of the delta is gently undulating, however it contains many areas of dunes with local relief reaching as much as 15.2 meters within 2.6 square kilometers (Thompson and Joos 1975: 137). The Sheyenne River trenched the delta until it graded to the new and lowere lake level after 10,500 B.P., and as the lake continued to recede further trenching occurred (Brophy 1967: 104). Presently, the northern part of the delta is 30.5 meters above the Lake Agassiz Plain, but it gradually recedes into the lake plain at its southern and eastern sides (Thompson and Joos 1975: 137). Drainage is poorly developed and mostly subsurface due to soil permeability and underlying deposits. Surficial

drainage usually occurs in short, deep gullies in the northeast facing slope of the delta (Klausing 1968: 7).

The Lake Agassiz Plain is relatively flat and featureless. The primary relief within this subdivision are north-south trending beach lines which range from 1.5 to 3.0 meters in height. The major river is the Red River of the North which is entrenched 4.6 to 9.1 meters into the plain. Local relief is usually less than 1.5 meters, but may be slightly greater in the vicinity of beaches and stream valleys (Klausing 1968: 6-7).

With exception of a small portion of the Red River of the North in Cass County the other major stream emphasized here is the Sheyenne River.

The Sheyenne River originates in Sheridan County and flows generally in an east and south direction through the Drift Prairie from its source to about 1.45 kilometers southeast of Lisbon, North Dakota in Ransom County. From this point it flows through the Sand Hills area, resulting from the formation of the Sheyenne Delta, in a steep sided valley reaching depths of 36.6 meters in places (Thompson and Joos 1975: 137) to about 6.4 kilometers southwest of Kindred, North Dakota in Richland County (Wiehe and Cassel 1977). At about this point the river enters the Lake Agassiz Plain and flows northward for about 48.3 kilometers before joining the Red River of the North, north of Fargo (Klausing 1968: 7). The Maple River following generally a northeasterly course, empties into the Sheyenne River about 4.8 kilometers north of Southwest Fargo in Cass County.

Climate

Using information derived from paleoecology studies outside the research area (Cvancara et. al. 1971, Watts and Bright 1968, and Shay 1967) Vehik and Vehik (1977: 9-12) have posited a generalized sequence of late glacial and post-glacial climate and climatic change for the research area. This does not differ greatly from the Holocene climatic model developed by Bluemle (1977: 53), and is summarized below.

The climate of eastern North Dakota between 12,000 to 10,000 B.P. was cool and moist with cool summers and warm winters (Bluemle 1977: 53). This may have allowed the growth of boreal forests dominated by spruce-aspen, and is commonly referred to as the Late Glacial climatic episode (Wendland and Bryson 1974). At the end of the Pleistocene around 10,000 B.P. the climate became warmer and the black soils typical of prairie grasslands began to develop (Bluemle 1977: 53). This period ended around 9000/8500 B.P., and was characterized by pine and/or deciduous forests (Vehik and Vehik 1977: 10). Two climatic episodes, the pre-Boreal

and Boreal are recognized during this period (Wendland and Bryson 1974: Table 7). The period between 8500 and 5000 to 4000 B.P. has an even drier and warmer climate which reached a maximum around 8000 to 7000 B.P. Dominant trees were oak, but prairie grasses replaced most woodlands. This is the Atlantic climatic episode (Wendland and Bryson 1974: Table 7), and is characterized by recurrent summer droughts, extensive soil erosion, wind caused dunes, and lowered lake levels (Bluemle 1977: 53).

The climate became cool and moist again, similar to today's, around 5000 to 4000 B.P. and allowed the development of woodlands dominated by herbs, pine, and deciduous trees. Basically, the climate fluctuated between cool humid conditions similar to the climate during most of the 1960's and slightly warmer periods like the 1930's (Bluemle 1977: 53). Wendland and Bryson (1974: Table 7) recognize five climatic episodes: the sub-Boreal (5000-2700 B.P.), the sub-Atlantic (2700-1680 B.P. or A.D. 270) during which cool, wet conditions prevailed with heavy winter snowfalls (Bluemle 1977: 53), the Scandic episode (1680-1260 B.P. or A.D. 690), the neo-Atlantic (1260-850 B.P. or A.D. 1100), and the Pacific episode between 850-400 B.P. or A.D. 1550 (Vehik and Vehik 1977: 10-11).

The final climatic episode, the neo-Boreal (400-100 B.P. or A.D. 1850), was not discussed by Wendland and Bryson. However, other researchers have noted colder and wetter climatic conditions with one period of alpine glaciation. Since A.D. 1850 alpine glaciation declined as the climate became warmer and somewhat less wet (Vehik and Vehik 1977: 11).

Presently, the research area has a cool-temperate, dry sub-humid climate with long winters and cool summers. Data from recording stations at Fargo, Lisbon, and Valley City do not indicate significant changes within the basin (Scoby et. al. 1973: 9). The normal annual temperature for the basin is about 5.5° C. (Scoby et. al. 1973: 9). From 1951 to 1960 temperatures averaged from about -13.7° C. in January to 21.5° C. in July (Scoby et. al. 1973: 10, Table 1). However, the extremes for this period averaged about -38.3° C. to 39.4° C. The average length of frost-free weather in the Sheyenne basin is about 130 days beginning around May 15 and lasting to about September 22 (Scoby et. al. 1973: 9). However, killing frosts as late as June 9 and as early as August 19 have been recorded for Cass County (Knobel et. al. 1924: 4). The soil is usually frozen to depths of approximately 1.4 meters by April 1 (Scoby et. al. 1973: 9).

The average annual percipitation ranges between 45.9 centimeters at Valley City (Johnson et. al. 1974: 5) to 50.8 centimeters at Fargo and Lisbon (Omodt et. al. 1966: 5). Approximately 80 per cent of the annual percipitation occurs

between April and September (Omodt et. al. 1966: 5). Snowfall averages 72.1 centimeters at Fargo and 60.7 centimeters at Lisbon with the greatest amounts occurring in December and January (Scoby et. al. 1973: 13, Table 6).

Natural Vegetation

Throughout the Pleistocene much of North Dakota has been characterized by cool, humid glacial periods and warmer, drier interglacial periods (Bluemle 1977: 52-53 and Vehik and Vehik 1977: 9-12). This has resulted in successive destruction and reestablishment of all vegetation (Bluemle 1977: 52). On the basis of palynological work it appears that during the late glacial period upland vegetation consisted of a boreal forest while the southern Lake Agassiz basin was occupied by marshes and meadows (McAndrews 1967: 268). During the earliest post-glacial (9900-9100 B.P.) the upland boreal forest disappeared, but some late glacial species may have persisted in protected sites and pine continued in the Sheyenne Delta region (McAndrews 1967: 268). Vegetation similar to that of modern times probably appeared around 9000-7000 B.P. (McAndrews 1967: 268).

Modern plant communities have been sub-divided into deciduous woodlands, wetlands, croplands, and grasslands (Wiehe and Cassel 1977). The Drift Prairie, to a large degree, is characterized as grasslands, and can be considered as a transitional zone between the xeric western short grass prairies and the eastern tall grass prairies (Vehik and Vehik 1977: 12). Trees are scarce in the uplands and vegetation consists of a variety of grasses, sage, and wolfberry among others (Johnson et. al. 1974: 20-28). Johnson et. al. (1974: 125-137, Appendix D) provide a list of vascular plants and their major habitates for Lake Ashtabula south of Cooperstown, North Dakota. Gallery forests occurring along the flood plain of the Sheyenne River and its tributaries were dominated by oak, elm, willow, and cottonwood among others (Johnson et. al. 1974: 29).

Modern vegetation existing in the Red River valley is varied. Uncultivated areas of the Red River valley proper are made up of bluestem prairies. The natural vegetation of the Sheyenne Delta consists of an oak savanna while the rolling prairie above the delta consists of grasses such as wheatgrass, bluestem, and neddlegrass (Scoby et. al. 1973: 32). A gallery forests exists along the Sheyenne River and other wet areas (Scoby et. al. 1973: 32 and Burgess 1965). For the most part, trees and shrubs along the Sheyenne River consist of elm, cottonwood, box elder, green ash, oak, aspen, basswood, wild plum, red osier dogwoods, and willows (Thompson and Joos 1975: 80-82). For a more detailed listing of climax and secondary vegetation as well as forbs and woody species the reader is referred to Thompson and Joos (1975: 80-82).

Faunal Resources

Faunal resources are plentiful throughout the area, and prior to modern disruption moose, antelope, elk, bear, and bison were common (Johnson et. al. 1974: 31-38 and Thompson and Joos 1975: 86-90). Johnson et. al. (1974) provide several listings of amphibians, reptiles, birds, upland game, and mammals for the Lake Ashtabula area south of Cooperstown, North Dakota. Scoby et. al. (1973: 40-43) provide an inventory of modern mammals found in the lower Sheyenne basin area which include most importantly waterfowl, deer, rabbits, and squirrels. A more recent listing of terrestrial vertebrates in the Sheyenne River basin is provided by Wiehe and Cassel (1977). According to them the following classes of terrestrial vertebrates occur in the Sheyenne River basin: nine species of amphibians, eight species of reptiles, 262 species of birds, and 52 species of mammals.

It may be pointed out that many species of plants and animals occurring in the Sheyenne basin today were used by prehistoric inhabitants in other portions of eastern North Dakota and the Northern Plains (Good et. al.1977b: 61-79 and Gilmore 1911-1912).

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

Archaeological research has, for the most part, been extremely limited in eastern North Dakota, and few archaeological sites have been recorded in the project area (Table 1). One reason for the lack of recorded archaeological sites is that most archaeological work in North Dakota has been conducted further west in water projects along major streams such as the Missouri River (Nicolai et. al. 1977: 7). The closest recent archaeological work has been along the James River (Vehik n.d., Good et. al. 1976, Good et. al. 1977a, Good et. al. 1977b, and Vehik 1977). However, archaeological investigations along the Sheyenne River in recent years have been almost nil.

The most recent publication dealing with the prehistory of the Sheyenne River is by Wood (1971). This report dealt with the Biesterfeldt site (32RM1) which has been known for numerous years as a Sheyenne-Cheyenne earth lodge village and was documented by Hayden in 1862 (Wood 1971: 70). During the 1860's members of General Sibley's expedition to the area made reference to this site in newspaper articles (Grinnell 1918: 364-365). The site was resurveyed by Libby (1910: 82-83) with a copy of the map being published in Grinnell (1918).

Also during the early 1900's other individuals were involved in describing mounds and rock alignments, and in some cases conducting inadequate excavations. For instance, Smith (1906: 80-88) lists a group of mounds about 10 miles (16 kilometers) southeast of Fort Ransom on the south side of the Sheyenne River. Libby (1913: 30) also surveyed a portion of the Sheyenne basin. He described some effigy mounds, but provided inadequate details.

The first systematic excavations in the lower Sheyenne basin was conducted in 1938 by W.D. Strong. This resulted in excavating a portion of the Biesterfeldt site (Strong 1940: 370-376). Also a mound may have been partially excavated by this field party near Lisbon, North Dakota "... which contained few artifacts but had several painted buffalo skulls" (Strong 1940: 385). Additional publications relating to Biesterfeldt consisted of a description of pottery (Wood 1955) and an analysis of material from Strong's 1938 excavation (Wood 1971). The Biesterfeldt site appears to be related to the Post-Contact Coalescent of the Plains Village Pattern and may be affiliated with the Cheyenne (Wood 1971: 70). The site also shows striking contrasts with Woodland groups to the east from which the Cheyenne are

TABLE 1

NUMBER OF RECORDED ARCHAEOLOGICAL SITES IN THE PROJECT AREAS

County	No. of Sites	No. of Site Leads
Cass	1	3
Griggs	3	5
Ransom	9	65
Richland	0	11

Taken from Schneider (1977: 14-16, Table 5).

supposed to have originated (Wood 1971: 70). Therefore, the identification of Biesterfeldt as Cheyenne is economical, but not definite (Wood 1971: 70).

Another site in the lower Sheyenne basin is the Wray Mound near Lisbon, North Dakota excavated by E.A. Milligan. No site report has been written but both Hewes (1949: 328) and Howard (1953: 130) make reference to it. Hewes (1949: 328) notes only that shell and horn ornaments resemble material found in the Devils Lake mounds. Howard (1953: 130) discusses the pottery noting that the vessels are "... identical in size, shape, and lip decoration with the spirally decorated vessels of the Southern Cult bearing culture, though the spiral groove decoration is replaced with a design reminiscent of the Southern Cult hand-and-eye motif."

Hewes (1949: 322) tested the Rasmussen site, 32BA8, which is south of Valley City, North Dakota. Surface finds at the site included animal bone, chipped stone, river mussel shells, and sherds. However limited test excavations yielded little or nothing of archaeological significance (Hewes 1949: 322).

E.A. Milligan, an amateur, examined or excavated several sites in the lower Sheyenne basin (Sherrod 1970). However, the only published material is an appendix describing pottery from the Schultz site (Wood 1963). The materials described were collected by T.C. Hecker (Wood 1963: 231).

An archaeological survey was apparently conducted in 1947 along the Sheyenne River from east of Lisbon, North Dakota to its confluence with the Red River in Cass County (Bowers 1948: 119 and 212). At least one site, Schultz, was tested by E.A. Milligan in 1947 (Bowers 1948: 44), and resulted in the collection of a fairly substantial pottery sample. Attributes from this sample were compared between Schultz and a number of sites along the Missouri River and the Biesterfeldt site on the Sheyenne River (Bowers 1948: 63-64, Table 1; 69-70, Table 2; 77-78, Table 3; 119-123). As a result, it is suggested that the Schultz site represents the oldest Hidatsa horizon that can be distinguished at this time (Bowers 1948: 123). Wheeler (1963: 229) considers the Schultz site to be a member of the Stutsman Focus to which he attributes an early historic date.

Milligan (1968) also provides a discussion of rock art. This is of limited value, but for the lower Sheyenne basin he notes "effigy" axes, a sandstone pebble with a design painted on it in green paint that was found in northwest Richland County, and inscribed boulders in the vicinity of Fort Ransom. Nelson (1973) also describes petroglyphs and rock alignments in the lower Sheyenne basin. He describes some rock holes which may be prehistoric, historic, or natural occurring near the town of Sheldon, North Dakota (Nelson 1973: 59-62).

The University of Minnesota undertook a survey of some glacial Lake Agassiz beaches in the lower Sheyenne basin during the summers of 1959 and 1960 (E. Johnson, personal communication). They located several sites, and tested a number of them. None of this material has been published, but they appear to be mostly affiliated with the Woodland period. However, as a result of their survey, Johnson (1962: 161-162) notes the occurrence of Folsom projectile points in the upper Sheyenne Delta area.

Chomko and Wood (1973: 12) in a general discussion of northern Plains linear mounds mention 32RM101 in Ransom County. The mound (32RM101) is on the bluffs overlooking the south bank of the Sheyenne River close to the point where the river enters the Red River valley.

Additional unpublished data from the University of North Dakota site files indicate that 32RM106 is a Plains Woodland burial mound, 32RM107 is a Late Nomadic camp, and 32RM201 is a Middle Missouri-like period female burial. It has been radiocarbon dated at A.D. 805 $\pm$ 105 (1195 B.P.). This burial was found in association with a tool kit similar to those known ethnographically to have been used by women (Good 1975: 8).

The majority of information available for the middle Sheyenne basin is the result of the construction of Baldhill Dam. Early fieldworkers noted the presence of some mounds along the Sheyenne River in Griggs County (Smith 1906: 87, citing Thomas 1891). Smith (1906: 80-88) also reprinted a discussion by Todd (1886) of a rock alignment site northwest of Valley City, North Dakota. This site, 32BA11, "... consists of a small circle and a larger semi-circle of stones which are connected by two parallel lines" (Johnson et. al. 1974: 49-51). The site is also described by Nelson (1973: 57-58).

Kivett (1948) surveyed the Baldhill Reservoir area for a week in 1947 and located ten archaeological sites; six occupational or camp sites, three mounds, and one site of an undetermined nature. The campsites tended to be along abandoned stream channels while the mounds were on uplands overlooking the river valley (Kivett 1948: 7-8).

Test excavations were conducted at 32BA5, 32BA6, and 32GG2 which are speculated to have been permanent villages (Kivett 1948: 8). Two sites, 32BA2 and 32BA3, were postulated to be temporary camps (Kivett 1948: 8). Pottery from some of these sites consisted of simple-stamped, smoothed, and cord-roughened body sherds and tempering was either grit or shell (Kivett 1948: 7). Kivett (1948: 7) suggests that sites associated with simple-stamped pottery are more recent than those associated with cord-roughened ceramics.

A test excavation was also made into a disturbed mound, 32GG1 (Kivett 1948: 8-9). The disarticulated remains of eight individuals with no associated artifacts were recovered (Kivett 1948: 8-9). The distribution of the remains within the mound suggested that mound construction may have been an accumulative process over a considerable period of time (Wedel 1948: 25).

Hewes (1949: 322-328) excavated two mounds at 32BA1 in 1948. Both mounds had central burial chambers with oak logs in which there were several disarticulated burials, in addition some intrusive extended burials occurred in one of the mounds (Hewes 1949: 324-327). A number of individuals in the central burial chambers had been covered with red ocher. Artifacts associated with these mounds consisted of a possible clay bead, a stone digging implement, bone tools, several brown chalcedony points, a river mussel shell disk ornament, two bird bone tubes one of which was covered with red ocher, four partly worked carnivore teeth, three human teeth with ground off roots, a human maxilla or mandible which had been ground flat, and a dental arch and palate (Hewes 1949: 325-327). Neuman (1975: 92) reports the presence of a cooper bead from Mound B. Also a scraper, flakes, and unutilized animal bones were recovered (Hewes 1949: 325-327). Subsequently, Neuman (1967) reported a date of A.D. 90 $\pm$ 150 (1910 B.P.) for one of the mounds.

Ossenberg (1974) analyzed some of the cranial data from 32BA1, and suggests that this skeletal group has its closest affinities with material from the Arvilla Culture along the Red River, northern Blackduck Culture (northern Minnesota-southern Manitoba), the Manitoba phase, and modern Cheyenne and Assiniboine (Ossenberg 1974: 35). However, there are problems with her interpretations as she ignores Neuman's (1967) date and assigns the group a date of 800 to 300 B.P. (Ossenberg 1974: 20).

Neuman (1975: 88-96) includes the material from 32BA1 in his Sonota Complex which he dates from 2000 to 1400 B.P. (Neuman 1975: 88). He also suggests that these mounds were built by hunters and gatherers whose cultural development took place on the northern Great Plains (with close relationships to Beasant occupations in Montana, Saskatchewan, and Alberta) and that this group received some stimulus from Hopewellian groups (Neuman 1975: 93).

Johnson et. al. (1974) provide a review of archaeological sites in the vicinity of Baldhill Dam and Lake Ashtabula in the northern part of Barnes County. Eleven of the 13 sites discussed were reported by Kivett (1948) and Hewes (1949) and the 1974 work simply reassessed their status. One of the other two sites was a rock alignment site (32BA11) northwest of Valley City. The thirteenth site, 32BA401,

was a mound located during a brief resurvey of the area (Johnson et. al. 1974: 40-51). However, nothing of diagnostic importance was recovered during the resurvey.

SUMMARY OF ARCHAEOLOGICAL CULTURES IN THE SHEYENNE RIVER BASIN

Summarizing archaeological developments in the Sheyenne River basin is difficult due to the lack of adequately excavated material. Therefore, the following summary will draw on information from outside the immediate research area.

Paleo-Indian

The earliest cultural group represented in the research area is the Folsom Culture dated between 10,000 and 8000 B.P. (Johnson 1962: 161). The Folsom Culture, hunters primarily of extinct bison, was coeval with the Pre-Boreal and Boreal climatic episodes (Vehik and Vehik 1977: 64). Sites of this culture are represented by isolated finds of Folsom-like projectile points. They seem to be more common further north and west along the upper Sheyenne River and James River. However, Folsom points have been located in the upper parts of the Sheyenne Delta (Johnson 1962: 162). This suggests that the Folsom Culture was present after the maximum Herman Lake stage, probably while the diminishing Lake Agassiz II was in existence (Johnson 1962: 162). Also a Paleo-Indian site dated from 10,025 to 9525 B.P. was excavated along the beaches of glacial Lake Agassiz in Manitoba (Saylor 1975).

The Plano Culture followed and was partially contemporaneous with the Folsom Culture in parts of the northern Plains. However, no Plano-like artifacts have been recovered in the Sheyenne River basin, and they are not abundant in other areas of eastern North Dakota. One isolated find of a Yuma-like point is reported from Stutsman County (Kammerer 1942: 123). This culture began during the Pre-Boreal and Boreal climatic episodes and apparently lasted into the Atlantic episode (Vehik and Vehik 1977: 65, Table 18).

Archaic

This period, characterized in the eastern United States by the presence of ground, polished and chipped stone, and by local adaptations to specific environments (Johnson 1962: 162), spans three climatic episodes beginning about the same time as the Atlantic, continuing through the sub-Boreal, and ending in the sub-Atlantic (Vehik and Vehik 1977: 66). Chronologically, it begins about 8000 B.P. and may have lasted until about 2000 B.P.

Unfortunately, well defined Plains Archaic sites are absent in the research area and most of the northern Plains. This is a result of a lack of investigations, in particular, of earlier terrace systems and sediments, and the probability that many Archaic sites may be deeply buried (Reeves 1973: 1243).

However, a few Archaic sites have been found in areas adjacent to the Sheyenne River basin. One of the earliest is the Minnesota Man site, 32OT3, in Minnesota. This is a burial site located in the bed of glacial Lake Pelican and is believed to date around 6000 B.P. (Johnson 1969; Streiff 1972: viii, 17). The Cemetery Point site and Component "A" of the Grand Rapids site in Manitoba are associated with the Whiteshell Phase which dates from about 5000 to 3500 B.P. (Mayer-Oakes 1967: 375). Also Archaic-like points have been found at 32WA310 (Cole 1968: 25), 32GF236, and 32GF237 (Loendorf and Good 1974: 17). These points are similar to Oxbow points which have been dated at 4643 ± 150 B.P. and 4613 ± 150 B.P. at the Long Creek site in Saskatchewan (Wettlaufer and Mayer-Oakes 1960: 114) and Parkdale Eared points of the Larter sub-phase of the Pelican Lake Phase in Manitoba dating from about 3000 to 2500 B.P. (Hlady 1970b: 280 and Reeves 1970: 154, 168).

Another possible Archaic site in close proximity to the Sheyenne River basin is 32LM201 in LaMoure County (Mallory 1966: 29-30 and Vehik n.d.: 73). This site consists of three stratigraphic layers and may be seven feet deep (Mallory 1966: 30). In addition, isolated finds of material belonging to the Old Copper Culture have been located near the towns of Lakota and McHenry, North Dakota (Spiss 1968: 125).

Woodland

The Woodland period (2000-800 B.P., characterized by the addition of pottery and use of burial mounds, appears to follow the Archaic period. These cultures appear around the beginning of the Christian era. For the most part the Woodland occupation of the northern Plains is poorly defined.

There is little evidence for Early Woodland occupations in the northern Plains (Syms 1977: 129). One possible site is Morrison Mound 13 in western Minnesota with a radiocarbon date of 2640 B.P. (Wilford et. al. 1969: 24-25, 50).

Data becomes much more frequent in the northern Plains with Middle Woodland occupations. The groups occupying central and eastern North Dakota and adjacent regions were of two general types, Sonota and Laurel. The following description of Woodland and Mississippian Plains Village Tradition is derived almost entirely from Vehik and Vehik (1977: 68-75).

The Sonota Complex, as defined by Neuman (1975: 96), is one component of a cultural tradition occupying most of the northern Plains. The Sonota Complex consists of a series of campsites and mounds found in the Dakotas from the Missouri River trench eastward to western Minnesota (Neuman 1975: 96).

The major difference between the Sonota Complex and groups to the west, such as the Besant Culture, is the former's mound building activities (Neuman 1975: 96). Otherwise, sites belonging to this tradition share in an emphasis on communal bison hunting and they also show a number of similarities in their chipped and ground stone artifacts (Neuman 1975: 81). Their similarities in pottery, however, are less pronounced (Neuman 1975: 81). Much of the mortuary complex and some of the ceramic attributes are thought to reflect Hopewellian influences (Neuman 1975: 83-84, 96).

Traits similar to those of the Sonota Complex have also been recognized in some of the mounds assigned to the Malmo Focus of southern Minnesota (Neuman 1975: 87). These include log-covered secondary burials (but not central burial chambers), certain pottery attributes, and the inclusion of bison skeletons and/or skulls as burial accompaniments (Neuman 1975: 87).

Sites within the research area which may belong to the Sonota Complex are few. 32BA1, the Baldhill Mounds, has already been included in the complex by Neuman (1975: 79). Also Strong's (1940: 385) Lisbon mound may belong to the Sonota Complex or one of the southern Minnesota groups.

The Laurel Culture extends from the eastern margin of the northern Plains around the north shore of Lake Superior and into the Upper Peninsula of Michigan (Stoltman 1973: 3). It too was characterized by a hunting and gathering way of life, possibly organized into a seasonal pattern, centering on the exploitation of fish, moose, and beaver (Stoltman 1973: 3).

The strongest relationships of the Laurel Culture appear to be to the east with other Great Lakes cultures such as Point Peninsula (Stoltman 1973: 3). Evidence of Hopewellian influence include the occasional appearance of obsidian, certain ceramic attributes, and the practice of mound burial (Stoltman 1973: 3). Unlike the Sonota Comple mounds, Laurel mounds lack a central burial chamber and were accretional. Certain burial practices, such as the breaking of long bone ends on secondary human internments, were found at the Grover Hand site of the Sonota Complex and Smith Mound 4 of the Laurel Culture (Neuman 1975: 48, 87 and Stoltman 1973: 9-11).

There is no evidence for Laurel Culture remains in any areas south of northern Minnesota according to Stoltman (1973: 3). Within the Red River valley drainage Laurel materials occur at least as far south as the Snake River (Johnson 1973: 30). Nelson (1973: 76), in referring to some archaeological work conducted by the University of Minnesota in southeast Sargent County, North Dakota, mentioned the occurrence of Laurel pottery. Perhaps the secondary burials from the accretional mound at 32GG1 belonged to a Laurel-like culture.

The Laurel and Sonota groups spanned the sub-Atlantic and Scandic climatic episodes. Both began their existence toward the end of the sub-Atlantic when the climate was becoming cooler and both terminated their existence toward the end of the Scandic as the climate became warmer. Hopewellian influences on these groups apparently ended with the onset of the Scandic (Baerreis et. al. 1976: 39-75).

Beginning around 1400 B.P. the Late Woodland Arvilla Complex appeared in the northeastern Plains and its periphery. It has been suggested that Arvilla was basically a mortuary complex associated with a series of foci or phases (Johnson 1973: 65). Since no habitation sites have been associated with this Complex little can be said regarding settlement and subsistence patterns. Basically, all that can be said is that burials tended to be placed under both round and linear mounds with a burial assemblage reflecting northern origins with the addition of some marine shell trade goods from the south (Johnson 1973: 66).

The Arvilla Complex per se does not seem to appear in North Dakota west of the Red River valley, with the exception of the Fordville area (Johnson 1973: 65). However, the Complex does share some traits with the Sonota Complex including the possession of Prairie side-notched projectile points (Johnson 1973: 65).

The Arvilla Complex spanned the late Scandic and neo-Atlantic climatic episodes. In the southern Red River valley it disappeared toward the end of the neo-Atlantic, but it seems to have persisted in the northern Red River basin for several more centuries (Johnson 1973: 66).

By 1000 B.P. in the Missouri trench cultures of the Plains Village (Mississippian) tradition had appeared. Groups belonging to this tradition may have also appeared in the research area at about this time considering the 1195 B.P. date of 32RM201). However, most of the sites belonging to this tradition from the research area probably are somewhat later in time and will thus be discussed in greater detail below.

Within the Red River valley and northern Minnesota the Blackduck Culture may have developed from an Arvilla Complex base (Johnson 1973: 66). In central Minnesota, however, the Kathio Focus, which developed from the Malmo Focus, replaced Arvilla (Johnson 1973: 66).

The presence of the Blackduck Culture in the southern Red River valley is not adequately documented. Nelson (1973: 76) noted that such material was recovered from southeastern Sargent County by the University of Minnesota expedition but little other data is available. However, in southern Canada the Blackduck Culture may have continued to historic times, and has been suggested to be prehistoric Assiniboine (Hlady 1970a: 108-110).

The Kathio Focus dates from at least 1400 to 1000 B.P. (Wilford 1970: vii-viii and Wilford et. al. 1969: 51). The Kathio Focus people practiced secondary burials in mounds which were sometimes accretional and they added very few, if any, grave goods (Johnson 1973: 66 and Wilford et. al. 1969: 15). These people, as well as those of the Blackduck Culture, were primarily hunters and gatherers. Although no sites belonging to the Kathio Focus have been noted in the research area it is possible that 32GG1 could belong here rather than to the Laurel Culture.

Blackduck, at least its southern manifestations, and the Kathio Focus appear to have begun and ended at about the same time as the Neo-Atlantic. It is possible that the Blackduck Culture retreated northward with the onset of the dryer Pacific climatic episode.

Another Late Woodland complex in northern Minnesota is characterized by Sandy Lake pottery (Cooper and Johnson 1964). Sites associated with Sandy Lake ceramics are included in the Wanikan Culture (Birk 1977: 31). Overall, it is one of the most recent Late Woodland cultures in Minnesota and is dated between 950 and 250 B.P. (Birk 1977: 31). Essentially, it is characterized by cord-roughened, shell-tempered Sandy Lake pottery, small triangular projectile points, fire hearths and pits, prepared ricing jigs or threshing pits, intrusive mound burials, exclusive circular conical mounds with shallow burial pits, primary flexed inhumations, seasonally occupied sites, and the inferred use of wild rice (Birk 1977: 32). The Wanikan Culture begins in the Neo-Atlantic lasts throughout the Pacific and ends in the Neo-Boreal climatic episode.

Basically, this marks the end of Woodland tradition domination in the northeastern Plains. However, it does not mean that Woodland based cultures did not continue to co-exist, at least early on, with groups belonging to the Mississippian Plains Village Tradition.

Mississippian Plains Village Tradition

This tradition is assumed to have started around 1000 B.P. and lasted until 100 B.P., and covered at least three climatic episodes. It began during the Neo-Atlantic and continued through the Pacific and the Neo-Boreal, ending at about the same time as the latter.

Mississippian centers were established by 1000 B.P. along the central and upper Minnesota River and near the confluence of the Cannon and Mississippi Rivers in Minnesota (Johnson 1969: 21), and apparently influenced developments in the northeastern Plains.

With the increase of Mississippian influences in the northeastern Plains a number of "Southern Cult" materials begin to appear (Johnson 1973: 66). To this belong the spirally decorated pottery and other materials found in the Heimdal (32WE401) and Wray mounds. Similar materials have been noted in other areas of the northern Plains (Howard 1953: 130). However, dates for this material are lacking.

Documented evidence for Mississippian groups along the eastern periphery of the northern Plains include sites of the Cambria Culture dating from about 950 to 650 B.P. and the Oneota Culture circa 650 to 350 B.P. (Wilford 1970: viii). These groups were primarily settled village agriculturalists. There is some evidence for the presence of Oneota groups in southeastern North Dakota (Nelson 1973: 76), but no such materials have been found in the research area.

Of the Middle Missouri Plains Village groups, the Mandan had a traditional belief that they moved from the Devils Lake area to the Middle Missouri. Whether or not this is actual fact the pottery from an effigy mound (32ED3), in the research area, has been considered very similar to Mandan (Cooper 1947: 5-6). Another potential village site, 32BE3, had pottery which generally resembled material from the Middle Missouri (Cooper 1947: 4).

Remaining material from the research area with Middle Missouri Plains Village relationships date to the Post-Contact Coalescent. Biesterfeldt, 32RM1, is a possible Cheyenne village. Other sites such as 32CS101, Schultz, Groff, and Joe Wall are village sites of unknown cultural affiliation. However, they most likely date to the same time as the Plains Village Tradition. The exact nature of these occupations and determinations of their cultural affiliation will have to await further investigations.

The Late Nomadic period is an infrequently used term referring primarily to that period of time during which

certain groups gained the majority of their subsistence by hunting bison from horseback. Tipi ring sites are believed to be evidence of the existence of these groups (Nicolai et. al. 1977: 28). This period is almost strictly confined to the Neo-Boreal climatic episode.

RECORDED SITES

This section discusses the sites recorded during the survey. The sites are organized sequentially by site numbers, provided by the state archaeologist, beginning with Cass County and ending with Ransom County.

Basically, information is provided on site locations, artifact descriptions, and discussion and recommendations. No legal locations are provided here since all of the recorded sites were on private land, and it is imperative that their locations remain confidential. However, Table 6 appended to the back of the report includes legal locations of recorded sites for planning purposes.

Artifact descriptions are fairly detailed because very little archaeological work has been conducted in eastern North Dakota. Therefore, detailed descriptions provide a basis for comparing materials with other regions which are better known archaeologically.

Recommendations and/or discussion are presented on a site to site basis. The basic recommendation is that additional survey needs to be conducted under better conditions. Probably, the best example typifying the need for additional survey is 32RM209. This site was located in a cultivated, recently harvested sunflower field. On the day the site was located 78 potsherds and some lithic debris were recovered. The next day the landowner was preparing the field for winter fallow. We walked the areas of the site again, but could only find five potsherds (three of which were in spots he had not plowed). This aptly demonstrates that recovery of cultural materials in freshly plowed fields may often be minimal, and should be taken into consideration when trying to decide whether a freshly plowed area should be called a site.

Cass County

Five prehistoric and one historic site were recorded in Cass County (Figure 2).

32CS201

Type: Open site.

Location and description: This large open site, bisected by a recent drainage ditch, is in a cultivated field

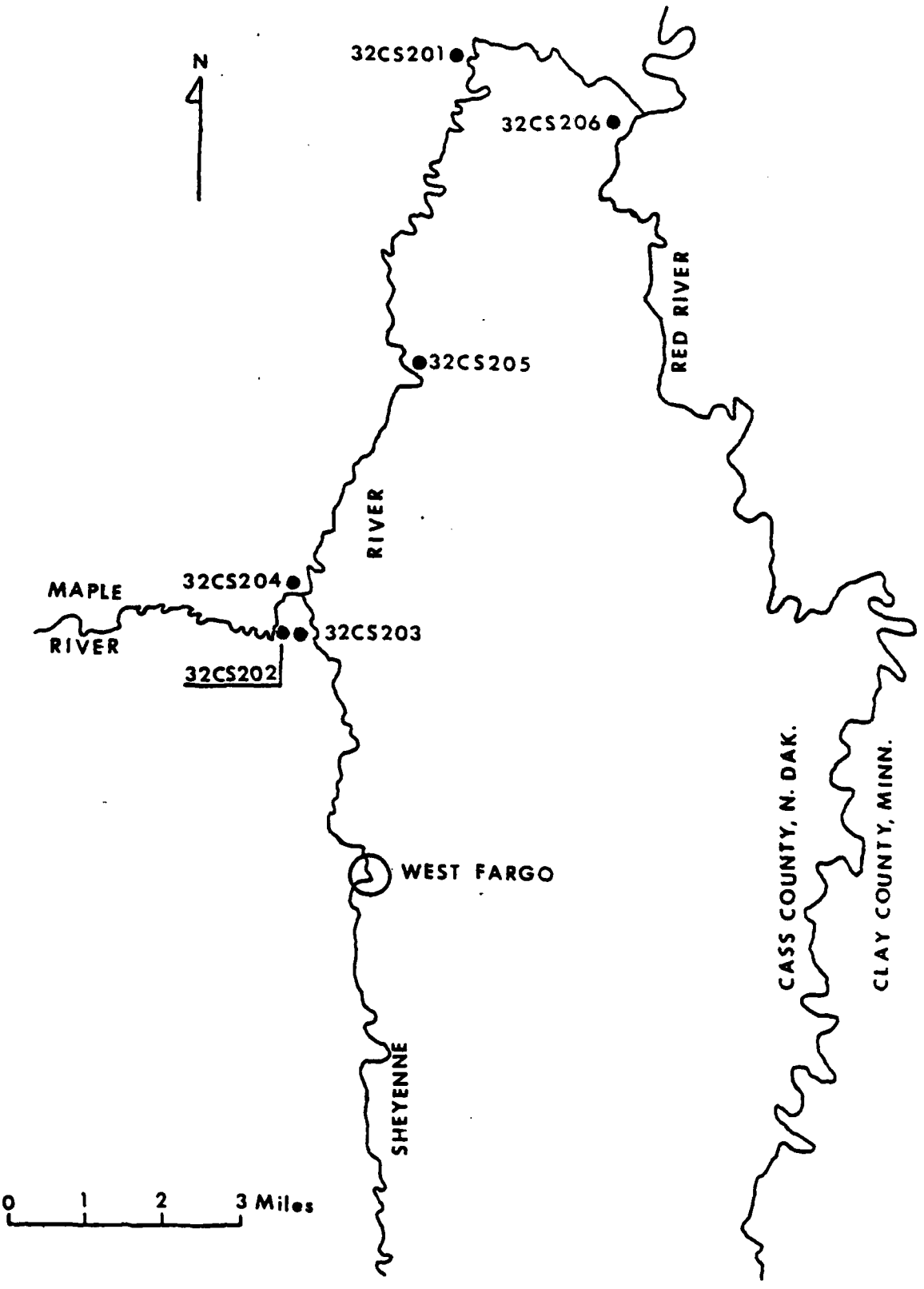

Figure 2. Map of Sites Along the Sheyenne River Valley in Cass County, North Dakota.

250 meters west of the Sheyenne River. The terrain is rolling (elevation 267 meters), and most of the cultural material occurred on higher parts of the field near the river south of the drainage ditch. The top soil is a dark grayish black silt and clay.

Associated material:

Faunal remains: Five teeth, four small pieces of burned bone, five unburned bone fragments, and one peice of shell were recovered.

Ceramics: The sample consists of seven rim sherds and 65 body sherds. Six body sherds were split. Also nine pieces of burned clay were recovered. None of the burned clay had any impressions in it.

Rim sherds:

Three rims are plain and undecorated (Fig. 5: a). Two have flattened lips and one is rounded. One specimen has light brushing marks on the exterior. Thickness ranged from 5.1 to 6.7 mm. They are grit-tempered which ranges in diameter from 0.5 to 6.3 mm. The exteriors and interiors are pale brown (10YR 6/3).

One rim (Fig. 5: b) is apparently from a small globular vessel. The surface is undecorated, but the rim extrudes toward the interior and has four round punctates. These are 3.0 mm wide and 1.6 mm apart. The body is 6.6 mm thick, and the lip is 5.2 mm thick. The sherd is tempered with grit which has a diameter of 1.6 mm. The exterior and interior are light gray (10YR 7/1).

Two rims are cord-roughened and grit-tempered. Exteriors and interiors on both specimens are reddish brown (2.5YR 5/6). Both have flattened lips which are characterized by pinched finger impressions. This provides a scalloped appearance, and on one rim excess clay protrusions are on the exterior of the lip. One rim is straight, but the finger impression is 1.4 mm deep and 9.0 mm wide. This sherd is 6.0 mm thick, and the temper has a diameter of 1.1 mm. The cord impressions are 1.3 mm wide. The other rim curves out and is 13.9 mm high (Fig. 5: c). The temper ranges up to 2.4 mm in diameter and the sherd is 5.2 mm thick. Cord impressions are 2.0 mm wide. The finger impressions are 13.8 mm apart, 11.8 mm wide, and 3.2 mm deep.

The final rim is also plain, but it has two small indentations on the flat lip (Fig. 5: d). These are 3.2 mm wide and 1.2 mm deep. This sherd is 5.2 mm thick and the grit-temper ranges up to 2.8 mm. The exterior and interior are very pale brown (10YR 7/4).

Body sherds: All of the body sherds are grit-tempered. Two sherds are trailed. They are 4.7 mm thick and temper diameter ranges up to 2.1 mm. The trail impressions are 3.1 mm wide and 3.9 mm apart.

Twenty body sherds ranging in thickness from 3.6 to 7.7 mm are grit-tempered. Four specimens have been smoothed after application of cord impressions. The size of the temper range from 1.0 to 2.7 mm.

Plain grit-tempered body sherds consist of 37 specimens. Thickness ranges from 2.2 to 7.5 mm and the diameter of the temper ranges from 1.0 to 3.0 mm.

Chipped stone:

Corner-notched point (Fig. 8: a):

Dimensions: Length-28.1 mm, width-12.2 mm, thickness-5.4 mm, and weight-1.9 g.

This point is made from a yellowish brown chert (10YR 5/8). The point is symmetrical with a triangular blade outline, U-shaped notching which is 9.5 mm wide, and a concave base. Primary flaking is conchoidal and bifacial and secondary retouch is angular expanding.

Corner-notched point (Fig. 8: b):

Dimensions: Length-22.7 mm, width-17.2 mm, thickness-4.3 mm, and weight-1.6 g.

This bifacially flaked specimen is made from a gray (5YR 6/1) quartzite. The proximal and distal ends are broken. Primary flaking is angular expanding. Secondary retouch is diminutive and conchoidal.

Corner-notched point (Fig. 8: f):

Dimensions: Length-36.4 mm, width-23.2 mm, thickness-6.6 mm, and weight-6.0 g.

A portion of the right lateral edge and distal end are broken. This may be the result of an impact fracture. The blade outline is triangular, the stem is slightly expanding and has a length of 10.2 mm, and the base is straight. Flaking is bifacial and consists of the removal of conchoidal and expanding flakes. Secondary retouch is bifacial, discontinuous, and expanding. This specimen is made from a gray (2.5Y N5/) quartzite.

Corner-notched point (Fig. 8: g):

Dimensions: Length-33.0 mm, width-11.4 mm, thickness-4.9 mm, and weight-2.8 g.

This specimen is bifacially flaked and has a long narrow triangular blade outline. The proximal and distal ends are broken. Primary flaking is conchoidal and expanding. Secondary retouch is discontinuous and expanding. It is made from a light gray quartzite (2.5Y N7/).

Side-notched point (Fig. 8: c):

Dimensions: Length 13.9 mm, width-12.1 mm, thickness-3.1 mm, and weight-0.6 g.

This is an asymmetrical point made from a dark reddish gray (10R 3/1) tertiary chert flake. The notches are U-shaped and are 9.6 mm wide and 1.5 mm deep. The base is straight. Primary flaking is bifacial and conchoidal, but no secondary retouch is evident.

Side-notched point (Fig. 8: h):

Dimensions: Length-28.6 mm, width-19.7 mm, thickness-6.5 mm, and weight-3.6 g.

The distal end of this light gray chert (5Y 7/1) specimen is broken. It appears asymmetrical, and has massive conchoidal flake scars. No secondary retouch is evident. This specimen may have been broken during manufacture since a large portion of the ventral surface and a small part of the dorsal surface have been removed.

Triangular unnotched point (Fig. 8: d):

Dimensions: Length-24.3 mm, width-17.2 mm, thickness-3.8 mm, and weight-1.3 g.

This asymmetrical specimen is made from a reddish yellow (5YR 7/6) chert. It has a triangular outline, but the right edge is excurvate while the left margin is straight. The base is also straight. Primary flaking is bifacial and consists of the removal of expanding and conchoidal flakes. Secondary retouch is dimunitive and expanding.

Distal point fragment (Fig. 8: e):

Dimensions: Length-19.0 mm, width-13.8 mm, thickness-4.5 mm, and weight-1.1 g.

This broken bifacially flaked specimen is made from a white (5Y 8/1) quartzite. Primary flaking is conchoidal while secondary retouch is diminuitive and expanding.

Proximal point fragment:

Dimensions: Length-10.2 mm, width-20.0 mm, thickness-4.4 mm, and weight-0.3 g.

This specimen has a slightly concave base. Primary flaking is bifacial and is expanding and conchoidal. It is made from white (2.5Y N8/) quartzite.

Biface fragment (Fig. 8: q):

Dimensions: Length-25.1 mm, width-21.1 mm, thickness-10.0 mm, and weight-5.5 g.

This proximal fragment is made from Knife River flint. Primary and secondary flaking is conchoidal, but the secondary retouch is obscured by crushing. It appears to have straight sides, and the base is convex.

Side scraper (Fig. 10: b):

Dimensions: Length-40.5 mm, width-39.2 mm, thickness-10.7 mm, and weight-13.6 g.

This specimen is made from a tertiary expanding quartzite flake. It has a very pale brown color (10YR 7/3). The striking platform is faceted. Primary flaking is broad, expanding, and conchoidal. Secondary retouch occurring along the right dorsal edge is angular expanding and conchoidal.

Side scraper (Fig. 10: c):

Dimensions: Length-25.6 mm, width-20.8 mm, thickness-5.0 mm, and weight-1.8 g.

This artifact is made from a black (2.5Y N/2) obsidian flake. It is bilaterally retouched. Primary flaking is expanding and conchoidal. The retouch is angular expanding and conchoidal.

End scraper (Fig. 10: d):

Dimensions: Length-39.5 mm, width-20.3 mm, thickness-7.7 mm, and weight-5.4 g.

This is a long, narrow blade-like Knife River flint flake. The striking platform is faceted. The distal end is steeply flaked, consisting of angular expanding and conchoidal retouch. Retouch is also present along the right ventral and left dorsal margins.

End scraper (Fig. 10: e):

Dimensions: Length-32.3 mm, width-24.4 mm, thickness-6.6 mm, and weight-6.9 g.

This specimen is made from a broken Knife River flint flake. Some retouch occurs along the right dorsal edge.

The distal end is steeply retouched consisting of angular expanding and conchoidal flakes. There is also some crushing along this edge.

End scraper (Fig. 10: f):

Dimensions: Length-20.5 mm, width-23.8 mm, thickness-6.1 mm, and weight-2.8 g.

This scraper is made from a Knife River flint flake. The striking platform is missing. The distal end has steep secondary retouch which is expanding, but is obscured by some crushing.

Utilized flakes: One chert, one Knife River flint, and four quartzite flakes have evidence of utilization along one or more edges.

Unutilized flakes: Seventy flakes are in this category. These consist of 18 chert flakes, 19 Knife River flint flakes, and 33 quartzite flakes. Also two unused rocks were recovered.

Discussion and recommendations: The projectile point varieties and pottery from the site are similar to Woodland artifacts in Minnesota. The triangular unnotched point may be later in time, but since no shell-tempered pottery was recovered at least a Woodland component can be postulated.

This site may be affected by diversions of the Sheyenne River or the construction of levees. As a result it should be resurveyed and at least tested. In terms of surface materials this was one of the most productive sites even though our informant had collected the day before our survey.

32CS202

Type: Open site.

Location and description: This site is north of West Fargo, North Dakota in a plowed field between the junction of the Maple and Sheyenne Rivers. The Maple River is approximately 300 meters west of the site. This area consists of gently rolling terrain (elevation 273 meters), and the soil is composed of flat-bedded clay, silt, and sand.

Associated material:

Faunal remains: Two teeth and one bone fragment were recovered.

Ceramics: The pottery sample consists of seven grit-tempered body sherds. They range in thickness from 3.5 to 7.9 mm. The temper ranges from 0.5 to 1.7 mm in diameter.

Chipped stone: Two chert flakes and one quartzite flake were utilized. Unutilized flakes included two quartzite and two chert specimens.

Historic material: One 40 mm long square nail was recovered.

Discussion and recommendations: A Woodland component is posited on the basis of the plain grit-tempered pottery. The square nail is intrusive, and may have come from 32CS203 which is a historic dugout site east of 32CS202.

The site is in an area which may be disturbed by levees or diversion ditches. It should be resurveyed under better conditions and tested in order to determine its cultural affiliation, extent, and significance.

32CS203

Type: Historic dugout depressions.

Location: The site is in a wooded area of the Sheyenne River bottoms about five miles northwest of Fargo, North Dakota. The area is slightly rolling, about 273 meters above sea level, and 225 meters west of the Sheyenne River. The site is about half a mile south of the confluence of the Maple and Sheyenne Rivers.

Description: Two elongate, sodded-in depressions adjacent to a couple of dry stream beds. The area appears undisturbed and is covered with high grass and trees. Several trees are growing in the dugout depressions. The landowner, whose father built this homestead, said the dug-outs were constructed around 1892.

Recommendations: The site should be resurveyed, mapped, and tested if it will be impacted by any proposed construction.

32CS204

Type: Open site.

Location and description: The site is about four miles north of West Fargo, North Dakota. It is 25 meters west of the Sheyenne River and north of the confluence of the Maple and Sheyenne Rivers. The area is characterized by slightly rolling terrain (elevation 273 meters). The field was plowed and consists of flat-bedded clay, silt, and sand.

Associated material:

Faunal remains: These consist of one fish vertebrae,

one piece of mollusc shell, and two bone fragments.

Ceramics: The pottery is grit-tempered and consists of cord-roughened and plain body sherds. There were 25 cord-roughened sherds. About half of these had been smoothed after application of cord-roughening. Thickness of the sherds range from 3.4 to 6.4 mm. The size of temper ranges from 1.1 to 4.3 mm in diameter. One specimen is a rim on which the lip is broken. It is 6.8 mm thick. The rim appears to extrude toward the exterior surface. The exterior and interior surfaces are a very pale brown (10YR 7/4).

The sample of plain pottery includes 14 sherds. They are from 3.2 to 6.2 mm thick and the grit-temper ranges in diameter from 1.0 to 2.4 mm. One sherd has a small hole drilled through it. The hole has a diameter of 5.0 mm.

Chipped stone:

Reworked projectile point (Fig. 8: i):

Dimensions: Length-21.2 mm, width-24.5 mm, thickness-4.3 mm, and weight-1.7 g.

This asymmetrical specimen is made from Knife River flint. Primary flaking is bifacial, expanding, and conchoidal. Secondary retouch is angular expanding. The stem may have been broken and the point was reworked into a short, wide implement.

Biface fragment (Fig. 8: r):

Dimensions: Length-15.2 mm, width-17.1 mm, thickness-4.1 mm, and weight-1.2 g.

This is a proximal biface fragment or lanceolate point base. It is made from a light gray chert (10YR 7/2). Primary flaking is bifacial and expanding. Secondary retouch is angular expanding. The base is concave, but is not ground.

Side scraper (Fig. 10: g):

Dimensions: Length-45.6 mm, width-23.2 mm, thickness-6.0 mm, and weight-6.8 g.

This tool has been retouched along both lateral edges. It is made from a secondary Knife River flint flake. The striking platform is faceted and cortex is present along part of the dorsal surface. Primary flaking is discontinuous and expanding. Retouch is conchoidal and angular expanding.

Side scraper (Fig. 10: h):

Dimensions: Length-71.6 mm, width-29.4 mm, thickness-14.4 mm, and weight-27.9 g.

This specimen is characterized by bifacial angular expanding and conchoidal retouch along one edge. It is made from a white (7.5YR N8/) tertiary chert flake.

Utilized flakes: This group consists of one Knife River flint flake, one chert flake, and three quartzite flakes.

Unutilized flakes: Raw material types include four Knife River flint flakes, 16 chert flakes, and 25 quartzite flakes. One of the latter may be a core fragment.

Groundstone:

Hammerstone (Fig. 11: d):

Dimensions: Length-56.0 mm, width-35.1 mm, thickness-26.7, and weight-87.8 g.

This complete specimen is unworked on the dorsal and ventral surfaces. However, both ends have been utilized and exhibit extensive battering and crushing. It may have been used in flint knapping activities. It is made from a very dark gray stone (2.5Y N3/).

Historic material: One coin and a retouched piece of glass is in this category. The coin is an 1891 or 1897 V-nickel. The piece of glass is translucent and has evidence of retouch along one edge.

Discussion and recommendations: Based on the cord-roughened and plain, grit-tempered pottery at least a Woodland component may be posited.

The site may be disturbed by the construction of levees or diversion ditches, and as a result should be resurveyed under better conditions and tested in order to determine cultural affiliation, extent, and to assess its significance.

32CS205

Type: Open site.

Location and description: The site is north of Fargo, North Dakota in a cultivated corn field. It is situated about 300 meters east of a large bend in the Sheyenne River. A small horse shoe shaped intermittent stream is south of the site. This area is flat to gently rolling and is 272 meters above sea level. The top soil consists of silt and fine to coarse sand.

Associated material:

Faunal remains: One burned and one unburned bone and a

tooth fragment were recovered. Also a possible bone bead (Fig. 7: q) was recovered. It has a length of 16.8 mm and a width of 9.9 mm. The hole is circular and has a diameter of 2.4 mm.

Ceramics: The sample consists of two rim sherds and 29 body sherds.

Rim sherds:

One well made specimen is 5.7 mm thick and is tempered with grit having a diameter up to 2.1 mm (Fig. 5: e). The surface is cord-roughened and the impressions are 1.7 mm wide. The lip is flattened and is characterized by 1.2 mm deep and 9.9 mm long indentations. The exterior and interior are a very pale brown color (10YR 8/4).

The other rim sherd (Fig. 5: f) is cord-roughened and grit-tempered. It has a very pale brown (10YR 7/4) exterior and interior. The cord impressions are vertically applied and are 2.6 mm wide. The lip is flat, but is characterized by finger impressions pinched into the clay when it was still wet. This provides a broad scalloped appearance and slight protrusions on the interior of the lip. The diameter of the temper is 1.6 mm and the sherd is 1.8 mm thick.

Body sherds: Three body sherds are split, one is trailed, four are plain, and 21 are cord-roughened.

The trailed sherd is 4.1 mm thick and has a very pale brown color. It is tempered with grit which ranges up to 1.1 mm in diameter. The trail impressions are 3.2 mm wide and 5.2 mm apart.

The four plain body sherds have a very pale brown color and are grit-tempered. The average thickness is 4.7 mm, and the average temper diameter is 1.6 mm.

One cord-roughened body sherd is shell-tempered (Fig. 7: b). The diameter of the temper is 1.2 mm and the sherd is 5.7 mm thick. Cord impressions are 2.5 mm wide. The remainder of the cord-roughened sherds are grit-tempered. They range in thickness from 2.5 to 7.2 mm. The size of the temper averages 1.0 mm, and the average width of the cord impressions is 2.0 mm.

Chipped stone:

Corner-notched point fragment:

Dimensions: Length-10.1 mm, width-21.9 mm, thickness-4.2mm, and weight-1.1 g.

This is a proximal fragment made from a light gray chert (10YR 7/1). The base is concave and the notches are U-shaped and 3.2 mm deep. Flaking is bifacial.

Utilized flakes: Three chert flakes exhibit utilization along one or more edges. One quartzite flake appears to be an aborted attempt at making a projectile point.

Unutilized flakes: One Knife River flint flake, three chert flakes, and eight quartzite flakes are in this group.

Discussion and recommendations: The cord-roughened grit-tempered pottery suggest a Woodland affiliation to the site. The indented rim is roughly similar to Sandy Lake Ware in northwestern Minnesota (Cooper and Johnson 1964). In a later study of a Sandy Lake assemblage from the Norway Lake site in northcentral Minnesota Birk (1977: 9) places Sandy Lake into the Late Woodland dating between 1000-300 B.P.

This area, west of Harwood, North Dakota, may be affected by building a levee. Therefore, the site needs to be resurveyed to determine its horizontal extent, depth, potential, and cultural affiliation.

32CS206

Type: Open site.

Location and description: This site is east of Argusville, North Dakota at the junction of the Sheyenne and Red Rivers. It is about 75 meters southeast of the Red River. This area is composed of slightly rolling terrain with an elevation of 267 meters. At the time of the survey the site was in a cultivated soybean field, and the soil was dry and composed of silt and fine sand.

Associated material: Two unutilized quartzite flakes and one grit-tempered body sherd were recovered. The sherd is well made and tempered with finely crushed grit ranging from 0.5 to 1.0 mm in diameter. The exterior and interior surfaces have a very pale brown color (10YR 7/3). Both surfaces are relatively smooth, but the exterior has a number of small indentations averaging 1.0 mm in length and 0.5 mm in width.

Discussion and recommendations: No definite cultural placement of this site can be made at the present time. The site needs to be resurveyed under better conditions in order to determine its extent and cultural affiliation. Testing is also recommended if the site will be affected by any proposed construction.

Griggs County

Fifteen prehistoric and one historic site were recorded southeast of Cooperstown, North Dakota in Griggs County (Figure 3). Twelve of the prehistoric sites were open sites or campsites and three were mounds. One of the latter was a linear mound site.

32GG221

Type: Open site.

Location and description: This is a large site on the west side of a straight portion of the Sheyenne River River. A small intermittent stream divides the site, and most of the cultural material was found south of this. The north end is terminated by what appears to be an old river channel. The area is characterized by gently rolling terrain (elevation 387 meters) and consists of dark brown clayey silt.

Associated material:

Faunal remains: This category consists of eight teeth or fragments thereof, one piece of burned bone, and six unburned bone fragments.

Ceramics: The sample consists of two rim sherds, 25 body sherds, and two split grit-tempered sherds.

Rim sherds:

One straight rim sherd (Fig. 5: g) has a very pale brown color (10YR 7/4). It is grit-tempered. The sherd is 5.8 mm thick, and the temper ranges up to 2.2 mm in diameter. The interior is smooth but the exterior is heavily cord-roughened with 2.2 mm wide impressions. The rim is 18.3 mm high. The lip is flattened and decorated by a series of tool impressions. The lip is 7.4 mm thick and the tool impressions are 2.6 mm wide, 1.4 mm deep, and about 4.6 mm apart.

The other rim sherd (Fig. 5: h) is coarsely grit-tempered. The exterior and interior are very pale brown (10YR 7/4). The exterior appears to be simple-stamped. These impressions have a diameter of 3.2 mm, and the sherd is 6.9 mm thick. The lip is flattened and is 8.5 mm thick. It is decorated by sloping tool impressions. They appear to have been made by a round ended implement pused through wet clay from the interior toward the exterior, resulting in slight lumps in front of the tool impressions. These impressions are 5.0 mm wide, 3.5 mm deep, and 5.4 mm apart. The temper ranges up to 4.0 mm in diameter.

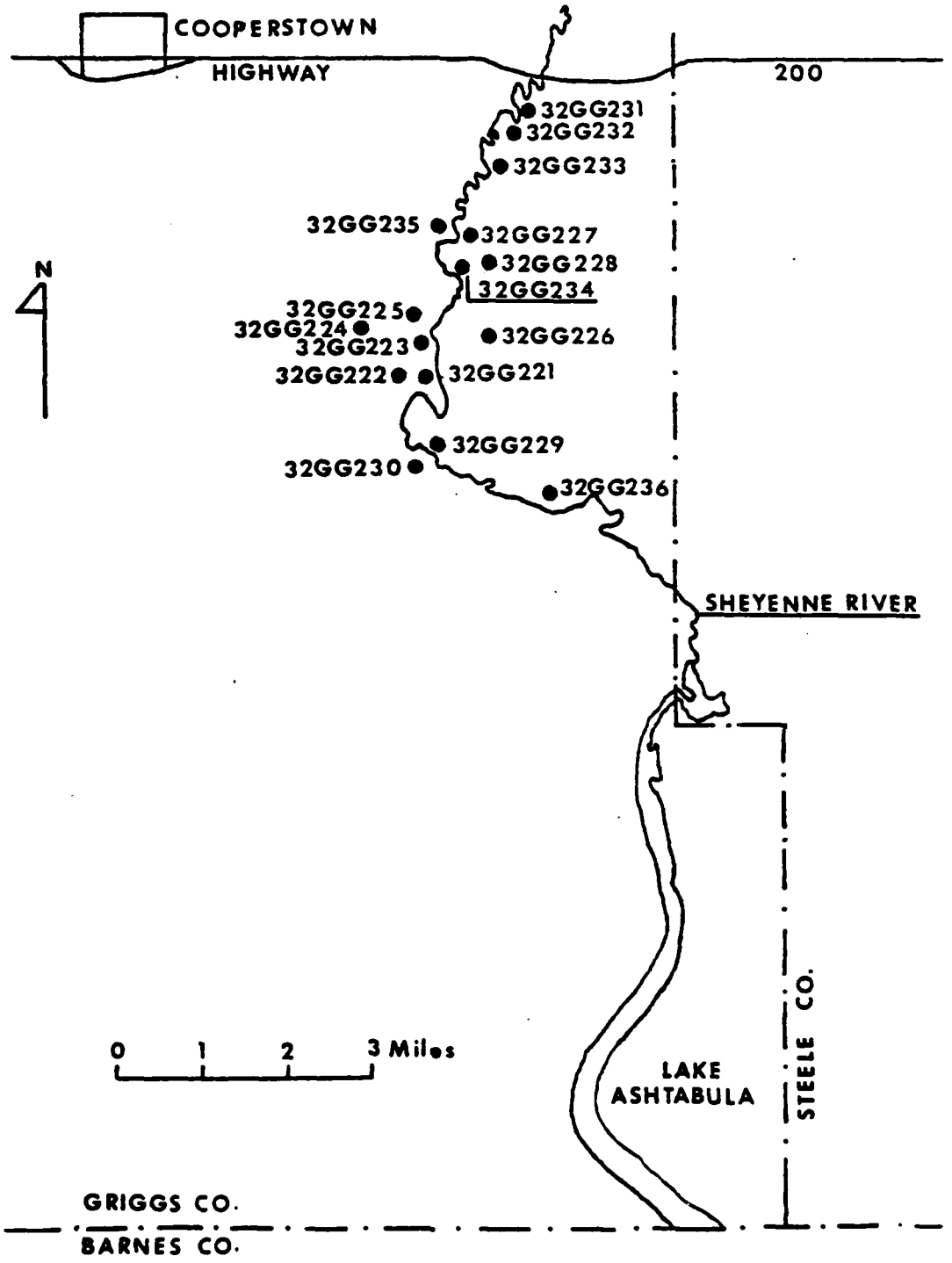

Figure 3. Map of Sites in the Middle Sheyenne River Basin, Southeast of Cooperstown, N.D.

Body sherds:

One body sherd is fabric-impressed (Fig. 7: c). It is 6.7 mm thick and grit-tempered. The temper ranges up to 1.8 mm in diameter. One sherd is simple-stamped (Fig. 7: d). The impressions are 2.7 mm in diameter and the sherd is 6.8 mm thick. The predominant temper is grit which ranges in diameter up to 2.5 mm. Two sherds had plain surfaces and were grit-tempered which ranges up to 2.3 mm in diameter. They are 7.0 mm thick. The remainder, 21, are cord-roughened, grit-tempered sherds. The temper ranges up to 2.6 mm in diameter. Sherd thickness ranges from 3.9 to 8.0 mm.

Chipped stone:

Biface fragment (Fig. 9: a):

Dimensions: Length-39.7 mm, width-29.2 mm, thickness-7.6 mm, and weight-11.4 g.

The distal end of this artifact is broken. The proximal end is rounded, and the edges are slightly excurvate. Primary flaking is conchoidal and expanding. Retouch is bilateral consisting of angular expanding and conchoidal flake scars. It is made from a light gray chert (5YR 7/1).

Utilized flakes: Two chert flakes, three Knife River flint flakes, and four quartzite flakes were utilized.

Unutilized flakes: This group consists of one jasper/chert flake, 34 chert flakes, and 44 quartzite flakes. A number of the larger fragments may be core flakes or fragments. There were also three rocks.

Discussion and recommendations: At least two components may be present at the site. The earlier component represented by cord-roughened, grit-tempered pottery may be Woodland. The later component is suggested by the simple-stamped and fabric-impressed pottery. Simple stamping was introduced by 1200 B.P. (A.D. 800) and by 500 B.P. (A.D. 1500) had replaced cord paddeling (Neuman 1963: 17). Fabric-impressed pottery is associated with the Selkirk Focus in southeast Manitoba (MacNeish 1958: 59). This has been dated between 1000-200 B.P. (Hlady 1970b: 280). Thus, it appears that the later component probably postdates 1000 B.P.

This area will be affected by increasing the pool elevation of Lake Ashtabula. Therefore, the site should be resurveyed under better conditions and tested in order to assess its significance.

32GG222

Type: Open site.

Location and description: This site is west of the Sheyenne River in a relatively flat area (elevation 395 meters). Cultural materials occurred on higher spots in a cultivated field 100 meters south of an intermittent stream. The soil is characterized by bedded gravels and sand. The site is south of 32GG223 and west of 32GG221.

Associated material:

Ceramics: Two plain, grit-tempered and one cord-roughened, grit-tempered body sherds make up this category. The plain body sherds have a very pale brown color and are 3.3 and 3.8 mm thick. These sherds are well made and the temper ranges up to 1.0 mm in diameter.

The cord-roughened sherd appears to be smoothed. It is 4.7 mm thick and the temper ranges up to 2.7 mm in diameter.

Chipped stone:

Triangular unnotched point (Fig. 8: j):

Dimensions: Length-18.1 mm, width-14.8 mm, thickness-3.8 mm, and weight-0.8 g.

This specimen is made from a white chert flake (2.5Y 8/2). The outline is triangular with the proximal end being the widest. Primary flaking is bifacial and consists of expanding flake scars. Retouch is also bifacial, but is discontinuous and expanding.

Triangular unnotched point (Fig. 8: k):

Dimensions: Length-16.5 mm, width-12.0 mm, thickness-3.7 mm, and weight 0.8 g.

This specimen is made from a white quartzite flake (5Y 8/1). It has a triangular outline, but a portion of the proximal end is broken. Primary and secondary flaking is bifacial and expanding. Secondary retouch is discontinuous.

Core:

Dimensions: Length-59.5 mm, width-41.4 mm, thickness-34.7 mm, and weight-72.8 g.

This artifact is characterized by having a pyramidal shape with cortex present over 50% of the dorsal surface. Large flakes have been removed from the dorsal and ventral surfaces. The ventral surface is irregular. No secondary

retouch or crushing is present. It is made from a white (10YR 8/1) piece of quartzite.

Utilized flake: One flake which was utilized along the distal end is in this group. This is a tertiary flake with a flat ventral surface, and may have been used as a flake scraper.

Unutilized flakes: Thirty flakes with no evidence of intentional use or retouch are in this category. Two flakes are from chert and 28 are quartzite.

Discussion and recommendations: Cultural affiliation is difficult to determine because of the small amount of diagnostic artifacts. The cord-roughened, grit-tempered pottery may suggest a Woodland component, but the two triangular unnotched points indicate a Mississippian component.

Since the site is in an area that will be affected by increases in the pool elevation of Lake Ashtabula it needs to be resurveyed under better conditions and tested in order to determine its horizontal and vertical extent and cultural affiliation.

32GG223

Type: Open site.

Location and description: This site is north of 32GG221 and south of 32GG225. It is along a broad, long bend of the Sheyenne River and north of an old river channel. This area consists of flat to gently rolling terrain about 390 meters above sea level. It was recently cultivated and the soil is a dark brown clayey silt. Cultural materials occur along both sides of a section road, and probably a portion of the site was destroyed when the road was constructed.

Associated material:

Ceramics: Four grit-tempered body sherds have plain surfaces. These specimens range in thickness from 4.7 to 7.9 mm. The temper ranges in diameter from 1.0 to 1.7 mm.

Cord-roughened, grit-tempered pottery consists of five specimens which are between 4.5 and 5.4 mm thick. The diameter of the temper ranges between 0.6 and 1.4 mm. The average width of cord impressions is 1.6 mm.

Chipped stone:

Biface (Fig. 9: b):

Dimensions: Length-63.8 mm, width-40.6 mm, thickness-13.8 mm, and weight 41.4 g.

This specimen is made from a reddish brown (5YR 5/4) quartzite. It has a rectangular outline, but is fairly crude in appearance resulting from the removal of massive conchoidal and expanding flakes. There is no secondary retouch, and it may be an unfinished biface blank.

Biface fragment (Fig. 9: c):

Dimensions: Length-33.1 mm, width-25.6 mm, thickness-7.6 mm, and weight 8.1 g.

This proximal fragment is made from a pale red (10R 6/4) quartzite. Primary flaking is expanding and conchoidal while secondary retouch is discontinuous and angular expanding. The base is narrow and slightly rounded.

Utilized flakes: Two quartzite flakes and one chert flake had evidence of utilization along at least one edge.

Unutilized flakes: This group consists of two chert and seven quartzite flakes.

Discussion and recommendations: The presence of plain and cord-roughened, grit-tempered pottery suggest a Woodland component at the site. However, due to soil conditions the site needs to be resurveyed and tested in order to determine its extent and assist in assessing its significance.

32GG224

Type: Circular mound.

Location: The site is on high bluffs approximately 419 meters above sea level. It overlooks intermittent streams to the north and south and the Sheyenne River to the east. The closest water is an intermittent stream about 200 meters to the northeast.

Description: One circular mound which is uniform in shape, measuring 13.7 meters north-south and east-west, and about one meter high. It appears undisturbed, and at the time of the survey was in prairie pasture. The landowner indicated that this area has not been cultivated.

Associated materials: None.

Recommendations: The site should be mapped and if it is affected by any proposed construction it should be tested or excavated.

32GG225

Type: Open site.

Location and description: This is a large site extending into four sections. The site is about 390 meters above sea level and west of the present channel of the Sheyenne River. However, the site appears to be associated with an old river channel and is bounded on the north by this channel and on the south by a pond. The terrain is gently rolling and the soil is composed of a dark brown sandy and clayey silt.

Associated material:

Faunal remains: One unidentifiable tooth fragment is in this category.

Ceramics: The sample consists of four rim and 12 body sherds.

Rim sherds:

One specimen is cord-roughened and grit-tempered (Fig. 5: i). It is 9.0 mm thick and the size of temper ranges from 2.1 to 5.0 mm. The rim is rounded and slightly pinched. Cord-roughening occurs on the neck, and the cord impressions are 2.0 mm wide. The rim has a height of 35.3 mm. The exterior color is light yellowish brown (10YR 6/4) and the interior is very dark gray (10YR 3/1).

One plain, grit-tempered rim has a slightly thickened lip (8.6 mm thick) which is the result of a horizontal tool impression in the top of the lip (Fig. 5: j). This appears to have been made with a round ended stick and is 2.1 mm deep. The lip is flattened. The sherd is 5.6 mm thick. The temper has a diameter of 1.2 mm. The exterior and interior color is reddish yellow (7.5YR 7/6).

Another rim (Fig. 5: k) is characterized by having a boss below the lip and three horizontal lines of vertical incisions on the neck. The boss protrudes from the exterior surface and is 5.7 mm deep and 5.7 mm in diameter. The vertical incisions, made with a pointed implement, are 0.3 mm deep and 3.0 mm wide, and the horizontal lines are 6.3 mm apart. The sherd is 7.0 mm thick and the grit temper has a diameter between 1.3 and 2.0 mm. The exterior and interior surfaces have a dark gray color (10YR 4/1).

The final rim sherd (Fig. 5: l) has a rounded lip and no decoration. It has a light brownish gray color (10YR 6/2), and is tempered with grit which has a diameter of 1.4 mm. It is 6.4 mm thick.

Body sherds: Twelve cord-roughened, grit-tempered body sherds were also recovered. Two of these specimens are smoothed. They range in thickness between 4.0 and 4.3 mm and the temper ranges from 0.8 to 2.2 mm in diameter. The remainder are cord-roughened, and range from 4.1 to 7.1 mm in thickness. The size of temper varies between 0.9 and 4.1 mm. Also there are three grit-tempered split body sherds.

Chipped stone:

Chopper (Fig. 11: e):

Dimensions: Length-78.3 mm, width-51.2 mm, thickness-17.4 mm, and weight-74.6 g.

This specimen made from a pale red (10R 6/2) quartzite appears to be a core fragment reworked into a chopping tool. approximately 25% of the dorsal surface has cortex. The ventral surface is irregular and has conchoidal flake scars. Discontinuous dorsal retouch is present along one edge.

Utilized flake: One secondary Kinfe River flint flake has been retouched along a lateral edge and may have been used as a side scraper.

Unutilized flakes: Three chert flakes and five quartzite flakes do not exhibit any evidence of use or retouch.

Discussion and recommendations: Exterior bossing appears to be a Woodland characteristic and dates between the birth of Christ and 1400 B.P. (A.D. 600) in Minnesota (Wilford et. al. 1969: 17-19; 25-27) and in South Dakota (Neuman 1975: 3-37). Therefore, at least one component of this site is tentatively identified as Woodland.

The site will be affected by increasing the pool elevation of Lake Ashtabula. Therefore, it needs to be resurveyed and tested in order to determine its extent, cultural affiliation, and relationship to similar sites in the vicinity.

32GG226

Type: Circular mound.

Location: The mound is in a flat area on high bluffs, about 430 meters above sea level. It overlooks the Sheyenne River valley with the river about 900 meters northwest of the site.

Description: Solitary circular mound in a plowed field. The mound measures 12.2 meters north-south, 10.4 meters east-west, and is about 60 centimeters high. The site has been

cultivated for years and was dug into in the early 1900's. Our informant, a 92 year old man, remembers recovering one human skeleton. At the time of the survey the soil was dry and characterized by numerous small cobbles and patches of sand and gravel.

Associated material: None.

Recommendations: The site should be resurveyed, mapped, and tested to determine its importance if it will be disturbed by any proposed construction.

32GG227

Type: Open site.

Location and description: The site is 50 meters west of the Sheyenne River in a dry plowed field composed of flat to gently rolling terrain (elevation 393 meters). Soil texture is a dark brown sandy and clayey silt. The site is bounded on the north and south by intermittent streams.

Associated material:

Faunal remains: Two bison teeth and two burned pieces of bone were recovered.

Ceramics: The sample consists of 44 body sherds and five rim sherds. All of the pottery is grit-tempered.

Rim sherds:

One straight rim sherd has been heavily brushed with broad, parallel lines averaging 3.0 mm in width on the exterior surface, but no decoration is present on the rim. The color of the exterior and interior is very pale brown (10YR 7/3). It is 5.5 mm thick, and the temper ranges up to 1.6 mm in diameter.

Two plain rims have tool impressions on the lip. Both are straight, but one has a diagonal tool impression and the other is horizontally tool-impressed. The diagonally tool impressed rim has a light gray (5Y 7/1) interior and a reddish yellow exterior (5YR 6/6). It is 6.3 mm thick, and the temper ranges up to 3.0 mm in diameter. The tool impression is 3.7 mm wide and 2.3 mm deep. The other specimen has a light gray (5YR 7/1) exterior and interior color. The temper averages 1.0 mm in diameter and the sherd is 7.1 mm thick. The horizontal tool impression is 1.6 mm deep, 2.1 mm wide, and 7.0 mm long.

One plain rim sherd (Fig. 6: a) is straight with a slightly rounded lip. The lip is characterized by being

indented or notched. The indentation begins about 7.2 mm below the lip, and is impressed 1.3 mm into the exterior of the lip. The exterior and interior surfaces are very pale brown (10YR 7/3), and the sherd is 6.5 mm thick. The finely crushed temper has a diameter of about 1.0 mm.

The final rim sherd (Fig. 6: b) is a straight specimen with no surface decoration. It has a gray color (7.5YR N5/). The lip is rounded and curves slightly out. The sherd is 7.1 mm thick and the temper ranges up to 1.4 mm in diameter.

Body sherds: The sample is divided into six groups including plain, cord-roughened, incised, simple-stamped, check-stamped, and split sherds.

There are 19 smooth, grit-tempered body sherds ranging in thickness from 3.0 to 6.5 mm. One specimen is heavily brushed on the interior surface. The temper is grit which ranges in size from 0.8 to 2.5 mm.

Twenty body sherds were cord-roughened and grit-tempered. In some cases the cord-roughening was partially obliterated by smoothing. Thickness ranged from 3.2 to 8.2 mm and temper diameters range from 1.2 to 3.2 mm.

Two body sherds were incised. One specimen was incised by a square ended implement making incisions 1.0 mm wide. The distance between incisions is 5.8 mm. This specimen has a thickness of 3.5 mm and the finely crushed grit temper has an average diameter of 0.3 mm. The other specimen is 4.6 mm thick and the temper has a diameter of 2.5 mm. Incisions on this specimen have the appearance of stitching and are about 1.0 mm wide. The distance between incisions is 3.7 mm.

One body sherd is simple-stamped and one is check-stamped. Both are grit-tempered. The simple-stamped sherd is 5.4 mm thick, and the temper has a diameter of 1.1 mm. The simple stamp impressions are 4.5 mm wide. The check-stamped sherd (Fig. 7: f) is 6.0 mm thick, and the temper has a diameter of 1.1 mm. The check stamp impressions are square with a diameter of 6.5 mm and are separated by 2.0 mm wide ridges.

Chipped stone:

Biface fragment (Fig. 9: d):

Dimensions: Length-20.8 mm, width-20.5 mm, thickness-6.6 mm, and weight 2.5 g.

This broken specimen is made of a light yellowish brown (10YR 6/4) colored chert. It is probably a distal fragment with a slightly rounded tip. Primary flaking is bifacial

and consists of large expanding flake scars. Secondary retouch is discontinuous with diminutive expanding flake scars.

Biface fragment (Fig. 9: e):

Dimensions: Length-25.8 mm, width-22.9 mm, thickness-7.8 mm, and weight 4.2 g.

This broken chert artifact has a light yellowish brown color (10YR 6/4). Primary flaking is expanding and bifacial. Secondary retouch is discontinuous and consists of the removal of small expanding flakes.

End scraper (Fig. 10: i):

Dimensions: Length-17.9 mm, width-18.0 mm, thickness-4.4 mm, and weight-1.4 g.

This small end scraper is made from a Knife River flint flake. The striking platform is present and is battered and crushed. Primary flaking along the scraper edge is expanding while secondary retouch is diminutive and expanding.

Utilized flakes: Two utilized flakes were recovered, and both are made from Knife River flint. One has been used around all its edges. The other artifact has been retouched along a lateral dorsal edge.

Unutilized flakes: This category is made up of three Knife River flint flakes, two chert flakes, one piece of mica, eight quartzite flake, and one flake in which the raw material is undetermined.

Discussion and recommendations: From the amount of cultural material recovered it would appear that the site was used for a long time. The pottery, represented by at least five different vessels, suggests that at least one and possibly two components are represented. The earlier component may be Woodland as suggested by cord-roughened, grit-tempered pottery. The other component might be later than 500 B.P. (A.D. 1500) since check-stamping appears on the northern Plains at about this time. Also simple-stamping had almost replaced cord-paddling by 400 B.P. (Neuman 1963: 17). Check- and simple-stamping are also present at Krischenmann III on the James River which is radiocarbon dated at 600 B.P. (Dahlberg 1977: 155-156).

This site should be resurveyed under better conditions, and it should be definitely tested or excavated if the level of Lake Ashtabula is increased or if it will be affected by any other proposed construction.

32GG228

Type: Linear mounds.

Location: This site, approximately 398 meters above sea level, is on a flat ridge north of a steep ravine which contains a live spring. It is about 125 meters east of the Sheyenne River.

Description: The site is composed of two circular, dome-shaped mounds connected by a low ridge. The mounds are oriented in a north-south direction. The north mound measures 11.7 meters north-south, 12.6 meters east-west, and is about 1.2 meters high. The other mound is to the south and is connected by a six meter long ridge. The ridge is about two meters wide and about 30 centimeters high. The south mound has a diameter of about 9.3 meters north-south, 11.3 meters east-west, and is about 50 centimeters high. Two elongated depressions are east of the mounds, and may have been borrow areas to obtain fill when the mounds were constructed.

Associated material: None.

Recommendations: An attempt should be made to preserve and map this site since it seems undisturbed. Otherwise, the mounds and joining ridge should be excavated in order to gain a better understanding of this type of archaeological site in the northern Plains.

32GG229

Type: Open site.

Location and description: The site is about 175 meters east of a sharp bend in the Sheyenne River. The terrain is flat to gently rolling and has an elevation of 390 meters. The site appears to be concentrated along the east side of an old river channel.

Associated material: One bison tooth, a vertebral fragment, and a bone fragment were the only faunal material recovered. Chipped stone remains consisted of one utilized Knife River flint flake and four unutilized flakes. Raw materials for the latter included one chert flake, one Knife River flint flake, and two quartzite flakes.

Discussion and recommendations: The cultural affiliation of this site is undetermined. The site should be resurveyed under better conditions in order to assess its extent, cultural affiliation, and significance.

32GG230

Type: Historic rock-lined dugout.

Location: This site occurs at an elevation of 393 meters and is about 75 meters south of the Sheyenne River. The terrain in the immediate vicinity of the dugout is relatively flat and in prairie pasture, but north of the site the topography becomes extremely rugged, and relief may exceed 30.5 meters. This area is heavily eroded.

Description: A single, undisturbed rectangular depression. All four walls are rock- or slab-lined. It measures six meters north-south, 4.6 meters east-west, and has a depth of about 92 centimeters.

Associated material: None.

Recommendations: This site may be endangered by the proposed enlargement of Lake Ashtabula. If this becomes a reality the site should be mapped and tested. Otherwise, it should be preserved since it was the only intact rock-lined homestead site recorded during the survey.

32GG231

Type: Open site.

Location and description: This site is about 75 meters east of a large bend of the Sheyenne River and south of an intermittent stream. This area consists of gently rolling terrain (elevation 395 meters) and is composed of dark brown sandy and clayey silt.

Associated material:

Faunal remains: These consist of one large vertebral element, one tooth, and a mandible associated with three teeth. These are presumed to be bison remains.

Ceramics: The sample consists of one cord-roughened, grit-tempered body sherd. It is 4.7 mm thick and the temper ranges up to 2.1 mm in diameter.

Chipped stone: This category is made up of one utilized Knife River flint flake and five unutilized flakes. Two were chert, two were quartzite, and one was jasper/chert.

Ground stone:

Dimensions: Length-109.6 mm, width-92.2 mm, thickness-39.0, and weight 393.3 g.

This large flat ground stone implement has been battered along its edges. It is made from a very dark gray (2.5YR N3/) stone.

Discussion and recommendations: According to the landowner this area had recently been deep plowed, and this may explain the presence of large pieces of bone. The site may be Woodland in age as indicated by the cord-roughened sherd. However, it is difficult to place the site within a general time period due to the lack of diagnostic materials.

The area may be affected by raising the pool elevation of Lake Ashtabula. As a result the site needs to be resurveyed in order to determine its extent and cultural affiliation. Limited testing should also be performed to see how much of the site is intact and assist in determining its significance.

32GG232

Type: Open site.

Location and description: This site, east of the Sheyenne River, is divided by an intermittent stream. Most of the cultural materials occur in a large, circular depression which may have been a pond at one time. The surrounding terrain is gently rolling (elevation 396 meters) and composed of dark brown sandy and clayey silt. The landowner mentioned that this area had been in soil bank before he deeply plowed it about a year ago.

Associated material:

Rim sherd (Fig. 6: d): The sample consists of one large straight, plain rim sherd. It is 7.9 mm thick and is grit-tempered. The temper ranges up to 3.8 mm in diameter. Several punctates are present below the lip. These were made by pushing a rounded tool into the exterior of the vessel when the clay was wet. They are 6.9 mm in diameter, 4.7 mm deep, and 7.8 mm apart. The lip is flattened and extrudes slightly toward the exterior. It is 11.9 mm thick. Vertical tool impressions occur on the exterior of the lip between the punctates. These are 6.3 mm wide, 10.8 mm long, 2.2 mm deep, and 14.0 mm apart. The interior is smooth except for small nodes resulting from the punctates on the exterior. The exterior and interior are a yellow color (10YR 8/6).

Body sherd: The sample consists of one plain, grit-tempered sherd. It is 6.2 mm thick and the temper ranges up to 2.6 mm in diameter.

Chipped stone: This category is made up of one utilized quartzite flake. Unutilized flakes include two Knife River flint flakes and four quartzite flakes.

Discussion and recommendations: The pottery suggests a Woodland component at the site. The exterior punctated sherd is similar, but not identical, to Arpan Punctate pottery (neuman 1975: 62). The Arpan mound is in South Dakota and has been radiocarbon dated at A.D. 100 ± 90 or 1900 B.P. (Neuman 1975: 63). This is part of the Sonota Complex which may have had contact with Hopewellian populations further east (Neuman 1975: 88-96).

The site will be affected by increasing the pool elevation of Lake Ashtabula. Therefore, the site should be resurveyed and tested in order to assess its significance.

32GG233

Type: Open site.

Location and description: The site is in a gently rolling cultivated field (elevation 394 meters) about 225 meters east of the Sheyenne River and an old river meander. South of the site is a large U-shaped natural depression, and most of the cultural materials were found north of this depression. The soil is a dark brown sandy and clayey silt.

Associated material: One piece of unburned bone, two tooth fragments, a broken bison mandible and tooth, one utilized quartzite flake, and three cord-roughened, grit-tempered body sherds (Fig. 7: e) were recovered. The pottery ranged in thickness from 4.8 to 6.5 mm. Cord impressions on the largest sherd were 2.8 mm apart, and the average temper diameter on the three sherds was 1.4 mm.

Discussion and recommendations: Based on the cord-roughened, grit-tempered pottery at least a Woodland component can be posited. The site needs to be resurveyed under better conditions to determine its size and significance. It should also be tested if it will be affected by any proposed construction.

32GG234

Type: Open site.

Location and description: The site is situated in a bend of the Sheyenne River. The river is north, west, and 75 meters south of the site. This area was cultivated and the majority of cultural materials occurred on the north side of the site where the terrain is gently rolling (elevation 393 meters). The soil is dark brown sandy and clayey silt.

Associated material: Five bone fragments, three flakes, and one small split body sherd were recovered. The exterior surface of the body sherd is cord-roughened and it is grit-tempered. The flakes were unutilized and consisted of one chert, one quartzite, and one Knife River flint flake.

Discussion and recommendations: The small amount of cultural materials do not allow placing the site into any specific culture with certainty. The presence of the small split body sherd may indicate a Woodland component.

This area will be affected by increasing the pool elevation of Lake Ashtabula. As a result the site should be resurveyed under better conditions before its significance can be assessed.

32GG235

Type: Open site.

Location and description: This site is in a sharp bend of the Sheyenne River approximately 75 meters south of the river. It is on the west side of the river and is in an area characterized by gently rolling relief (elevation 393 meters). The site area is characterized by fairly large cobbles occurring sporadically in the field, and gravel occurs more along the western edge of the field.

Associated material: One broken grooved maul was found along the north side of the site near the Sheyenne River. This specimen is made from a pink colored granite (5YR 7/3). It is 127.4 mm long, 84.0 mm wide, 89.6 mm thick, and weighs 830.3 grams. The groove is very shallow, 25.2 mm wide, and encircles the entire implement.

Discussion and recommendations: Cultural affiliation is undetermined. The site needs to be resurveyed under better conditions to determine its extent, affiliation, and significance.

32GG236

Type: Open site.

Location and description: This site is in a gently rolling cultivated field about 387 meters above sea level. It is south of a large natural depression and about 400 meters north of the Sheyenne River. The depression may have been a pond, and probably contains water during periods of heavy percipitation. At the time of the survey this area had been recently plowed and the soil was dry and consisted of dark brown sandy and clayey silt.

Associated material: Three unutilized flakes were recovered. Two were quartzite and one was a Knife River flint flake.

Discussion and recommendations: The lack of diagnostic material precludes assigning this site to an archaeological period. The site should be resurveyed under better conditions to determine its significance.

Ransom County

Three historic and 36 prehistoric sites were recorded along the Sheyenne River and its tributaries in Ransom County (Figure 4). Twenty two of the prehistoric sites are open sites (campsites), 11 are mounds, one is a tipi ring site, one is a possible village site consisting of earth lodge depressions, and one is an earthen ditch or embankment. The majority of the sites recorded are in the proposed Kindred Reservoir area and several are in possible impact area along Dead Colt Creek and Timber Coulee.

32RM202

Type: Open site.

Location and description: The site is northeast of Lisbon, North Dakota in a large open field which is gently rolling (elevation 312 meters), and bounded by the Sheyenne River on the north and west. Most of the cultural remains occur along the west end of the site adjacent to the Sheyenne River.

Associated material:

Ceramics: This group consists of one cord-roughened and two plain body sherds which are grit-tempered. The cord-roughened body sherd is 5.3 mm thick, and the temper has a diameter of 1.7 mm. The cord impressions have been slightly smoothed, but they are 1.2 mm wide.

The temper of the plain body sherds has a diameter of 2.2 mm. One sherd is 4.0 mm thick and the other is 4.5 mm thick.

Chipped stone: Two quartzite flakes have been slightly utilized, and one Knife River flint flake and a quartzite flake were unutilized.

Summary and recommendations: The cord-roughened and plain, grit-tempered pottery may indicate a Woodland component. This site is on the western edge of the proposed Kindred Reservoir, and should be resurveyed under better conditions and possibly tested in order to assess its significance.

Key for Figure 4. Map of Sites in the Central Part of the Lower Sheyenne River Basin

1. 32RM202
2. 32RM203
3. 32RM204
4. 32RM205
5. 32RM206
6. 32RM207
7. 32RM208
8. 32RM209
9. 32RM210
10. 32RM211
11. 32RM212
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33. 32RM234
34. 32RM235
35. 32RM236
36. 32RM237
37. 32RM238
38. 32RM239
39. 32RM240
40. 32RM1
41. 32RM101
42. 32RM201

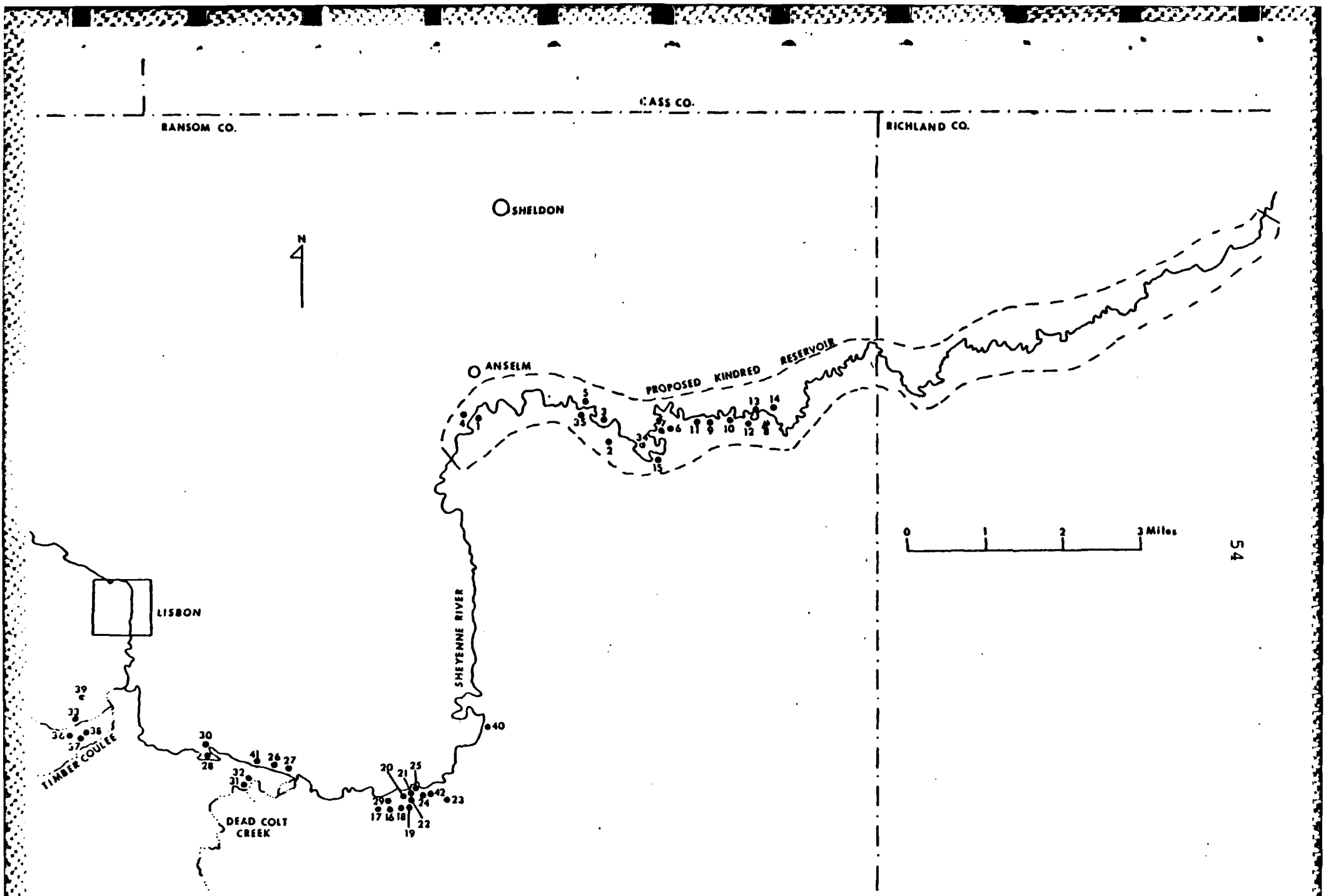


Figure 4. Map of Sites in the Central Part of the Lower Sheyenne River Basin.

32RM203

Type: Open site.

Location and description: This site, northeast of Lisbon, North Dakota, is on a high bluff (elevation 328 meters) south of the Sheyenne River. It is about 4.6 to 6.1 meters above the river valley. The terrain is relatively flat, but becomes more rolling toward the east. Several springs are present around the site. At the time of the survey this area was covered by unharvested corn making it difficult to see the ground. The site was surveyed and possibly tested by a field crew from the University of Minnesota in 1959 or 1960 (Elden Johnson, personal communication).

Associated material: Material recovered during the survey consisted of two rocks, four quartzite flakes and one chert flake which were unutilized, and two grit-tempered, simple-stamped body sherds. The grit is finely crushed averaging about 1.0 mm in diameter. The average thickness of the two sherds was 4.9 mm.

A local collector recovered one obsidian projectile point, small unnotched triangular points, and grooved mauls. The University of Minnesota survey recovered one Knife River flint scraper, two utilized flakes, 81 body sherds, and 10 rim sherds. Some of the rim sherds are similar to Ransom Cord Impressed (Wood 1955: 6-7 and Wheeler 1963: 201).

Discussion and recommendations: The simple-stamped body sherds suggest a late prehistoric occupation of the site. Also the similarity of some rim sherds, from the University of Minnesota collections, to Ransom Cord Impressed pottery suggest that the site may be related to sites of similar age as Biesterfeldt.

Since this site will be inundated if the Kindred Reservoir is constructed a more detailed survey and testing program should be initiated.

32RM204

Type: Open site.

Location and description: The site is northeast of Lisbon, North Dakota. It is about 325 meters north of the Sheyenne River in a cultivated field. The area consists of gently rolling terrain and is about 310 meters above sea level. Most of the cultural material occurred on higher spots in the field. There is a natural depression south of the site.

Associated material:

Faunal remains: These consist of one broken piece of shell, one burned bone fragment, and five unburned bone fragments.

Ceramics: The pottery sample is made up of only body sherds. These are subdivided on the basis of temper and surface decoration.

Five sherds are plain, grit-tempered specimens. One is 8.9 mm thick and may be a basal sherd. The remainder are from 3.1 to 6.0 mm thick. The size of temper ranges from 1.3 to 2.6 mm.

Four sherds (Fig. 7: g), ranging in thickness from 4.1 to 9.3 mm are cord-roughened, grit-tempered sherds. The average width of the cord impressions is 2.5 mm, and the temper ranges from 1.3 to 1.9 mm in diameter.

Nine specimens are cord-roughened, shell-tempered sherds (Fig. 7: h). They are 4.8 to 6.3 mm thick. The temper consists of fairly fine platlets of shell and their diameter ranges from 1.1 to 2.0 mm.

Chipped stone: One utilized chert flake, four unutilized quartzite flakes, and one unutilized Knife River flint flake are in this group.

Discussion and recommendations: Two components may be present at this site. The earlier component may be Woodland as suggested by plain and cord-roughened, grit-tempered pottery. The other component may postdate 800 B.P. since shell-tempered pottery is associated with Mississippian cultures which are dated between 1000 and 400 B.P. in Minnesota (Johnson 1969: 22). Also cord-roughening and shell tempering are characteristic of Sandy Lake Ware (Cooper and Johnson 1964: 475). This type of pottery is believed to be the most recent pottery in northern Minnesota (Caine 1974: 63), and has been tentatively dated between 1000-300 B.P. (Birk 1977: 29). Cord-roughened, shell-tempered pottery also occurs in the Selkirk Focus in Manitoba (MacNeish 1958: 67-71). This manifestation is dated between 600-200 B.P. (Hlady 1970b: 280). Cord-roughened, shell-tempered pottery and triangular points were also recovered at 32RM235 which is approximately 1.6 kilometers east of 32RM204.

This site should be definitely resurveyed and tested to determine its extent and significance.

32RM205

Type: Open site.

Location and description: This site is northeast of Lisbon, North Dakota. It is in a plowed field on a high point (elevation 333 meters) overlooking the Sheyenne River. The river is about 200 meters southeast of the site.

Associated material:

Faunal remains: One bone and shell fragment were recovered.

Ceramics: The pottery sample consists of one plain, grit-tempered body sherd. It is 7.0 mm thick, and the temper has a diameter of 0.5 mm.

Chipped stone:

Biface (Fig. 9: f):

Dimensions: Length-45.3 mm, width-21.1 mm, thickness-9.7 mm, and weight-8.6 g.

This specimen is made from a yellowish red (5YR 5/6) quartzite. Primary flaking is conchoidal and secondary retouch is discontinuous and conchoidal. It has a straight base and triangular outline.

Biface fragment (Fig. 9: g):

Dimensions: Length-17.9 mm, width-23.4 mm, thickness-7.1 mm, and weight-2.6 g.

This distal biface fragment is made from a gray (7.5YR N5/) quartzite. Primary flaking is conchoidal and expanding. Secondary flaking is bifacial, discontinuous, and angular expanding.

Flake scraper (Fig. 10: j):

Dimensions: Length-24.0 mm, width-27.8 mm, thickness-10.1 mm, and weight-6.3 g.

This artifact is made from a light gray (5YR 7/1) secondary chert flake. Ninety percent of the dorsal surface is covered with cortex. The striking platform is faceted and slightly crushed. Steep angular expanding retouch and crushing occurs along the left lateral dorsal margin.

Utilized flakes: One Knife River flint flake, four chert flakes, and eight quartzite flakes have been utilized along one or more lateral edges. One quartzite flake is a bifacial retouch flake.

Unutilized flakes: This group consists of one jasper/chert flake, six chert flakes, and 26 quartzite flakes.

Discussion and recommendations: The site may have a Woodland affiliation, but the lack of daignostic material precludes any definite statement. The site is, apparently, on the western edge of the proposed Kindred Reservoir. Therefore, it should be resurveyed under better conditions and tested in order to determine its significance.

32RM206

Type: Open site.

Location and description: This site is northeast of Lisbon and southeast of Sheldon, North Dakota. It is about 320 meters above sea level and 500 meters north of the Sheyenne River. The area consists of rolling terrain with a depression and intermittent stream west of the site. The field has not been cultivated for at least a year, and was covered with stubble. The soil appeared to be a dark brown sandy loam and had quaite a number of rocks in it.

Associated material: One 1951 D Lincoln penny and three unutilized flakes were recovered. When the field was cultivated the landowner found Knife River projectile points, scrapers, and cord-roughened and plain pottery.

Discussion and recommendations: The ceramic material recovered by the landowner suggests a Woodland component. owever, this site needs to be resurveyed under better conditions before an adequate assessment can be made.

32RM207

Type: Circular mound.

Location: The site is northeast of Lisbon, North Dakota. It is in a rolling prairie pasture overlooking the Sheyenne River at an elevation of 306 meters. The river is about 400 meters east of the site.

Description: One circular, dome shaped structure which measures approximately 15.8 meters north-south, 12 meters eas-west, and has a height of about one meter. Our informant mentioned another mound in the same area but it was indiscernable. The mound appears undisturbed. A large open site, 32RM208, is in the river bottom east of the mound.

Associated material: None.

Recommendations: The site should be mapped. Also the proximity of this site to 32RM208 indicates that they may be related, and both sites should be tested if the Kindred Reservoir becomes a reality.

32RM208

Type: Open site.

Location and description: This is a large site northeast of Lisbon, North Dakota. The site is in a cornfield 325 meters east of the Sheyenne River and west of 32RM207. The area consists of slightly rolling terrain (elevation 308 meters) and several natural depressions occur around the site in the middle of the field.

Associated material:

Faunal remains: Two unburned bone fragments are in this group.

Ceramics: The ceramic sample consists of four simple-stamped, grit-tempered body sherds. Sherd thickness ranges from 2.8 to 5.5 mm. Temper diameters range from 1.2 to 2.3 mm.

Chipped stone: This group consists of one unutilized quartzite flake.

Discussion and recommendations: Surface materials from this site are limited due to field conditions. The field was covered with unharvested corn at the time of the survey. However, the simple-stamped pottery possibly suggests a late prehistoric component (after 800-600 B.P.).

Since the site is in the proposed Kindred Reservoir area it needs to be resurveyed under better conditions and tested in order to determine its extent and cultural affiliation and to assess its significance.

32RM209

Type: Open site.

Location and description: This large site is northeast of Lisbon, North Dakota. It is in a cultivated field which is composed of brown sandy loam. The site is north of an old river channel and the Sheyenne River is about 300 meters northwest it. Most of the cultural material occurs on two noticeable ridges (elevation 305 meters) at the east end of the field. The Schultz site (32RM215) is about 675 meters to the northwest.

Associated material:

Faunal remains: Four large bone fragments, one tooth, one mandible associated with two teeth, and three broken mollusc shells were recovered. All of the animal bone is tentatively identified as bison.

Ceramics: The pottery sample consists of seven rim sherds and 83 body sherds.

Rim sherds:

One rim (Fig. 6: c) is distinguished by diagonal tool impressions on the lip and cord-wrapped rod impressions on the body. The lip is rounded and is decorated by 2.3 mm wide diagonal tool impressions. These are 3.4 mm apart and 1.0 mm deep. The impressions on the body are made with a Z-twist cord-wrapped rod and are 1.5 mm wide and 1.5 mm deep. The interior of the sherd has a heavy carbon deposit. The primary tempering material is grit which ranges in diameter from 0.9 to 4.3 mm. The lip is 6.0 mm thick and the body is 5.0 mm thick. The exterior and interior of the sherd are very dark gray (2.5YR N3/).

One light brownish gray (10YR 6/2) rim sherd is shell-tempered (Fig. 6: e). The temper ranges from 0.7 to 1.7 mm in diameter. The lip is rounded, but the exterior of the lip has shallow tool impressions. These are 2.6 mm wide, 4.2 mm long, and 0.9 mm deep. The lip is 5.2 mm thick and the undecorated body is 5.9 mm thick.

Another rim (Fig. 6: f) has a grayish brown (10YR 5/2) exterior and interior. The lip is flattened and has a thickness of 5.0 mm. No surface decoration is present on the exterior of the sherd, but a finger impression is below the lip on the interior. It is 9.0 mm long, 7.0 mm wide, and 1.7 mm deep. The rim is straight and has a height of 31.0 mm and is 6.2 mm thick. It is grit-tempered which ranges in diameter from 1.1 to 2.8 mm.

One specimen is a small undecorated grit-tempered rim sherd. The average temper diameter is 1.2 mm. The lip is flat and 6.1 mm thick. The neck is 5.2 mm thick. The interior and exterior are very dark gray (10YR 3/1).

One rim sherd is simple-stamped (Fig. 6: g). It is 6.5 mm thick. It is grit-tempered which ranges in diameter from 0.9 to 3.1 mm, and the exterior and interior are grayish brown (10YR 5/2). The lip is flattened and characterized by a shallow groove which results in pushing the clay out toward the exterior and interior. The groove is 5.6 mm wide and the lip is 8.6 mm thick.

A small rim sherd has a rounded lip which is characterized by narrow diagonal tool impressions on the interior of the lip. These are 5.6 mm long, 2.0 mm wide, 2.5 mm apart, and about 1.7 mm deep. The sherd is 5.6 mm thick, has a grayish brown color (10YR 5/2), and is grit-tempered which ranges up to 1.6 mm in diameter.

The final rim sherd (Fig. 6: h) is 6.2 mm thick, and has a grayish brown color (10YR 5/2) and is grit-tempered. The temper ranges up to 1.5 mm in diameter. The lip is rounded and is characterized by cord wrappped rod impressions on the interior and exterior. These appear to have been made with a S-twist cord. The impressions are about 3.0 mm apart and are 3.9 mm long, 2.2 mm wide, and about 0.6 mm deep.

Body sherds: These are subdivided on the basis of surface decoration and temper.

The sample of simple-stamped, grit-tempered body sherds consisted of 32 specimens. Thickness ranges from 3.2 to 9.0 mm and the diameter of the grit-temper ranges up to 2.5 mm. Some sherds were smoothed after application of simple-stamping. The average diameter of simple-stamping is 3.7 mm.

Sixteen simple-stamped body sherds were shell-tempered (Fig. 7: i). The average diameter of simple-stamping is 2.4 mm. Thickness of these sherds ranges from 3.3 to 7.5 mm. The temper consists of finely crushed shell to large platlets of shell ranging in diameter from 0.5 to 2.8 mm.

One grit-tempered body sherd (Fig. 7: j) is decorated with horizontal and diagonal lines of cord-wrapped stick impressions. This sherd is 7.6 mm thick and the diameter of the temper is 1.5 mm. The impressions, 1.4 mm wide, appear to have been produced with a S-twist cord.

One shell-tempered sherd was incised. It is 7.0 mm thick and the diameter of the temper is 2.4 mm. A row of 1.4 mm wide incisions occur on this specimen.

Two grit-tempered body sherds are trailed (Fig. 7: k). They are 3.7 to 4.1 mm thick and the trail impressions are 2.6 mm wide and 2.6 mm thick. The temper has a diameter of 1.4 mm.

One grit-tempered specimen is engraved (Fig. 7: l). The temper has a diameter of 1.4 mm, and the sherd is 6.7 mm thick. The engraving appears to de diagonal and ranges in width from 0.5 to 0.8 mm.

Plain, grit-tempered sherds include 22 specimens. The diameter of the temper ranges up to 2.6 mm and thickness ranges from 3.1 to 8.5 mm.

Two shell-tempered sherds were cord-roughened (Fig. 7: m), four had plain surfaces (Fig. 7: n), and two were split. The plain surface sherds ranged in thickness from 3.0 to 7.7 mm, and the temper ranged up to 1.5 mm in diameter. The cord-roughened specimens were 4.5 to 6.6 mm thick. The cord impressions were 1.3 to 2.4 mm wide and the temper ranged in diameter from 0.7 to 1.9 mm.

Chipped stone: This group consists of one utilized jasper flake, 14 unutilized flakes, and one rock. Raw material types for the unutilized flakes include three sedimentary flakes, one Knife River flint flake, four chert flakes, and seven quartzite flakes.

Discussion and recommendations: As mentioned previously this site is southwest of the Schultz site (32RM215), and it appears the sites might be related in terms of age. Shell-tempered pottery is tentatively dated in Minnesota between 1000-300 B.P. (Birk 1977: 29) and in Manitoba between 600-200 B.P. (Hlady 1970b: 280). On the other hand, the site appears different than those associated with the Stutsman Focus and the Biesterfeldt site (32RM1). This is especially true in the presence of shell-tempered pottery. Wood (1971) does not mention any shell-tempered pottery from Biesterfeldt. One shell-tempered, simple-stamped sherd is reported from the Hintz site (Wheeler 1963: 204), and a shell-tempered, plain body sherd was found at 32SN232 (Wheeler 1963: 225). In regard to the sherd from the Hintz site, Wheeler (1963: 204) comments "... that the attributes manifested here are fortiutous within the local culture rather than indicative of extraneous cultural relationships."

Cord-wrapped rod impressions, as an element of lip decoration, are present at Biesterfeldt and sites of the Stutsman Focus. However, due to differences in lip decoration no relationships are posited, but they do indicate a relatively recent age for 32RM209.

This site will definitely be affected by construction of the Kindred Reservoir. The site should be resurveyed and tested to assess its significance and its relationships to similar sites along the Sheyenne River and other late prehistoric cultures on the northern Plains.

32RM210

Type: Open site.

Location and description: This site is situated northeast of 32RM212 in a cultivated field which is slightly rolling. The site is about 306 meters above sea level and 250 meters south of the Sheyenne River. The area at the time of the survey was an unharvested cornfield characterized by brownish black loamy soil.

Associated material:

Faunal remains: Five broken pieces of bone were recovered.

Ceramics: The sample consists of two body sherds. Both were grit-tempered which ranged in size from 0.5 to 1.0 mm.

One sherd has a plain surface while the other appears simple-stamped. The simple-stamped sherd is 3.6 mm thick and the plain sherd has a thickness of 4.2 mm.

Chipped stone:

Possible core fragment:

Dimensions: Length-51.5 mm, width-44.3 mm, thickness-29.7 mm, and weight-62.9 g.

This specimen is made from a small piece of quartzite. All of the cortex has been removed from the dorsal surface, and some, large expanding flake scars are present.

Unutilized flake: Only one quartzite flake is in this group.

Discussion and recommendations: The small amount of cultural material precludes any definite placement of this site into any presently known archaeological assemblage. However, the presence of a simple-stamped sherd indicates that the site may have been occupied by at least 1500 B.P. (Neuman 1963: 17). This site should be resurveyed to assist in determining cultural affiliation, extent, and its relationship to 32RM211, 32RM212, and 32RM213. If the Kindred Reservoir is constructed the site should be tested.

32RM211 (Joe Wall)

Type: Open site.

Location and description: This site is approximately 305 meters above sea level and about 175 meters south of the Sheyenne River. It is on a slightly rolling, cultivated field consisting of a dark brown to black humic soil west of 32RM212 and east of 32RM213. It has been previously recorded by Sherrod (1970), and may have been excavated by E.A. Milligan. Sherrod (1970) mentions that it is a small site with scattered lodges, but he did not visit the site. Presently, this area is cultivated and no depressions or evidence of lodges are discernable.

Associated material:

Faunal remains: One unidentifiable bone fragment was recovered.

Ceramics: The sample consisted of one cord-roughened, shell-tempered body sherd and one plain grit-tempered body sherd. The latter specimen is 5.3 mm thick and the temper ranges up to 1.5 mm in diameter. The exterior is covered with a carbon residue and the interior is slightly brushed.

The cord-roughened body sherd is 2.9 mm thick, and appears to be tempered with finely crushed platlets of shell having a size of about 0.7 mm. The cord impressions are about 1.1 mm wide.

Chipped stone: This group consists of one unutilized quartzite flake.

Discussion and recommendations: The presence of shell as a tempering agent may have been unintentional. Wheeler (1963: 192) in identifying Buchanan Flared Rim ware from the Stutsman Focus mentions that shell inclusions in this ware were accidental. On the other hand, shell-tempered pottery may be some of the most recent pottery in northwestern Minnesota (Cooper and Johnson 1964). If the use of shell as a tempering agent is intentional it may indicate that the site was at least occupied after 700 B.P.

The site should be definitely resurveyed because at the time of the present survey it was recently deeply chisel plowed. Also if the reservoir becomes a reality the site should be tested in order to ascertain its chronological placement and relationship to 32RM212 and 32RM213.

32RM212 (Groff)

Type: Open site.

Location and description: This is another site northeast of Lisbon, North Dakota which is reported to have been investigated by E.A. Milligan (Sherrod (1970). Apparently, Milligan believed the site to be a village comparable to Biesterfeldt (Sherrod 1970). However, the site today is covered with fences, a pole barn, and cow yard constructed about 15 years ago. The landowner also implied that some leveling of this area had been done at the time of construction. The site is about 35 meters south of the Sheyenne River, and a creek or spring flows east of it. The surrounding area is covered with high grass and large trees.

Associated material: None.

Discussion and recommendations: It should be tested to determine how much of the site is intact if the Kindred Reservoir is constructed.

32RM213 (Sim Wall)

Type: Open site.

Location and description: The site is on a rolling ridge (elevation 305 meters) about 300 meters southwest of the Sheyenne River, and is bisected by a small dirt road.

It is bounded on the south by bluffs. Most of the cultural material occurs west of an intermittent stream. At the time of the survey the area had been recently plowed and was very dry. The soil is dark brown to black humus, and apparently has very few rocks in it. This site was visited by Sherrod (1970) and E.A. Milligan did some testing.

Associated material:

Faunal remains: Nine bone fragments and one tooth were recovered.

Ceramics: One very well made straight, grit-tempered rim sherd was recovered (Fig. 6: i). The exterior portion of the rim is decorated by three horizontal lines of S-twist cord impressions which have an average width of 1.0 mm. The exterior surface of the sherd has a very dark gray color (2.5YR N3/) and may be linear check-stamped or simple-stamped. The impressions range from 2.5 mm to 3.1 mm in width. The interior surface is smooth and is light gray (2.5YR 7/2). The grit temper is fine to fairly coarse, ranging from 0.4 to 2.0 mm in diameter. The temper is made up of at least quartz and feldspar and may indicate the use of crushed granite. The sherd is 6.0 mm thick.

Discussion and recommendations: The decoration and shape of the rim sherd may indicate a Plains Village affiliation (W.R. Wood, personal communication). Also the rim does not vary greatly in shape and decoration from similar sherds defined at Biesterfeldt (Wood 1971: 30). As a result, at least one component at the site probably dates after 500 B.P.

The site and surrounding areas should be resurveyed under better conditions and tested in order to determine its extent and relationship to other late Plains Village cultures and to 32RM211 and 32RM215.

32RM214 (Bagouin)

Type: Open site.

Location and description: This site, northeast of Lisbon, North Dakota, is listed by Sherrod (1970) to be a small campsite. The site was situated in a sharp bend of the Sheyenne River about 75 meters west of the river. This area has an elevation of about 305 meters.

Associated material: None.

Discussion and recommendations: No cultural materials were recovered or observed since the site may have been destroyed when a new bridge over the Sheyenne River was

constructed. The landowner mentioned that some leveling had been done when the channel of the Sheyenne River was diverted, and that the site area had been filled with at least one or two feet of silt from the old river bed. As a result this area should be shovel tested in order to determine if any portion of the site is intact.

32RM215 (Schultz site)

Type: Open site.

Location and description: This site is on a large open ridge (elevation 302 meters) adjacent to an old stream channel of the Sheyenne River and an intermittent creek. The site is north of the point where a creek from the northeast flows into the Sheyenne River (Sherrod 1970). It is about 200 meters east of the river and is in pasture.

Part of the site, apparently, was excavated by E.A. Milligan and possibly by T.C. Hecker (Wood 1963: 231). Wood (1963: 231-233) describes pottery from Hecker's excavations which came from village ash pits. "... This may indicate either that they (potsherds, parentheses mine) were found near the base of some features at the site, or that they were recovered from the lower of several levels recognized at the site. The overwhelming majority of sherds in the sample from the Schultz site are cord-marked." These collections are at the State Historical Society Museum in Bismarck, North Dakota. A.W. Bowers (1948) also visited the site and studied materials recovered by Milligan.

Associated material: Only one plain, grit-tempered body sherd with a thickness of 5.0 mm was recovered. However, both Wood (1963) and Bowers (1948) describe pottery from this site. Wood (1963: 231-233) describes and illustrates Lisbon Flared Rim and Owego Flared Rim Wares which are primarily cord-marked, but some check-stamping is also present.

Bowers (1948) also analyzed pottery from the site. He found that 13.3% of the rims were S-shaped, 2.5% were collared with a narrow reinforced area at the lip of the vessel, 21.6% were everted rims forming the outline of a "C", and 57% were straight rims (Bowers 1948: 60-65, Table 1). Rim decorations consisted of 7.6% cord, 17.7% cord-wrapped rod, 15.2% incised, 12.6% punctate, 29.1% pie crust, 8.9% plain, and 8.9% check stamp (Bowers 1948: 70-71, Table 2). Body decorations consisted of 20.9% grooved paddle, 30.1% cord-wrapped paddle, 4.4% incised, 34.7% check-stamped, and 9.8% plain (Bowers 1948: 77-78, Table 3). No mention was made of chipped stone artifacts, but Sherrod (1970) located one pounding implement.

Discussion and recommendations: The age of the site appears to be fairly late since Lisbon and Owego pottery have been found at sites associated with the Stutsman Focus dated at 250 B.P., or 230 to 200 B.P. (Wheeler 1963: 229). Bowers (1948: 123) places the site in the Painted Woods Focus and considers it to be the oldest Hidatsa horizon that can be distinguished "at this time". The identification of the Painted Woods Focus as Hidatsa needs to be accurately verified. This focus is now considered a subdivision of the Post Contact Coalescent Variant (Lehmer 1971: 163).

The site will be inundated if the Kindred Reservoir is constructed, and, therefore, should definitely be tested and excavated in order to obtain well provenienced data. Also the material, if it can be located, in the State Historical Society should be reanalyzed. This site could offer an opportunity to study the relationship of Post Contact Coalescent Variant sites between the Middle Missouri region and the lower Sheyenne River region.

32RM216 (Pigeon Point)

Type: Historic dugout depressions.

Location: The site is northeast of Lisbon, North Dakota in a flat area on high bluffs (elevation 320 meters) overlooking the Sheyenne River to the north. The site is about 300 meters south of the river. This site is designated as Pigeon Point on U.S.G.S. topographic maps (7.5 minute series), and is marked by a North Dakota State Historical marker.

Description: Pigeon Point was constructed as a "storm station" to protect travelers on the trail between Fort Abercrombie and Fort Ransom in 1867 (Sherrod 1970: 42). At the time of the survey the area was covered by extremely high grass, but seven depressions oriented in a southwest to northeast direction were noted. However, Sherrod (1970: 43) recorded 14 depressions and part of the old trail southwest of the site was still visible in 1970.

Associated material: None were located during the survey, but the landowner has dug up portions of old plates, crockery, glass, and metal objects.

Recommendations: The site may be affected by the proposed Kindred Reservoir. An attempt should be made to preserve this site under authority of the North Dakota State Historical Society if it has not been done. A detailed map should be made, and the site definitely should be tested if it will be destroyed.

32RM217

Type: Circular mound.

Location: This site is southeast of Lisbon, North Dakota. It is in a nearly level upland pasture (elevation 352 meters) overlooking the Sheyenne River which is about 325 meters to the north. Several ravines leading to the river bottom are north of the mound. Another circular mound, 32RM218, is about 475 meters due to west.

Description: This is a large circular mound with a diameter of 33 meters north-south, 27.3 meters east-west, and a height of about 2.5 meters. A large noticeable depression, measuring about 5.9 meters north-south, 3.6 meters east-west, and having a depth of about 80 centimeters occurs in the center of the mound. The landowner mentioned the depression was dug by unknown individuals in the 1920's hopeful of locating gold. Apparently, the mound has been cultivated in the past, and a small portion of the south side is still being cultivated.

Associated material: One unutilized quartzite flake and one unutilized Knife River flint flake were recovered.

Recommendations: Apparently, the site will not be disturbed by any known construction. However, it should be mapped and its proximity to 32RM218, 32RM219, and 32RM230 indicates that it should be tested in the context of a regional archaeological program.

32RM218

Type: Circular mound.

Location: The site is on a high rolling terrace (elevation 351 meters) about 475 meters west of 32RM217. The Sheyenne River is 475 meters to the north, and a large ravine with a live spring is to the west.

Description: This is a large, apparently undisturbed, circular mound in prairie pasture. It is about 1.2 meters high and measures 9.7 meters north-south and east-west. The area around the mound has been cultivated once, and the landowner noticed large amounts of shell and other artifacts. Therefore, the mound may be associated with a village site.

Associated material: One bison bone was found in a ravine east of the mound.

Recommendations: Since no proposed construction will affect the site it should be preserved and mapped. However,

if the site is endangered it should be tested as should the area around it in order to determine whether a village site is associated.

32RM219

Type: Circular mounds.

Location: This group of six structures is on a high terrace (elevation 343 meters) approximately 200 meters south of the Sheyenne River. The terrain is relatively flat, but a natural depression is east of the mounds. It is 274 meters west 32RM220, and east of 32RM217 and 32RM218.

Description: This site consists of five circular mounds in a cultivated field and one mound is in a pasture north of the plowed field. One mound was destroyed when the section road was built. The other four mounds in the field are being slowly eroded as a result of plowing. Table 2 presents the dimensions of the mounds.

TABLE 2

32RM219 MOUND DIMENSIONS

Mound	North-South	East-West	Height
1	10.7 m	10.9 m	1.0 m
2	30.8 m	18.7 m	1.5 m
3	29.3 m	16.9 m	90 cm
4	30.1 m	22.2 m	1.7 m
5	22.3 m	18.9 m	60 cm
6	-	-	-

Associated material:

Faunal remains: Nine fragmentary pieces of bone and one tooth are in this group.

Ceramics: The sample consists of ten cord-roughened, grit-tempered body sherds, five plain, grit-tempered body sherds, and two split, grit-tempered body sherds.

Two cord-roughened sherds were smoothed after application of the surface treatment. Thickness ranges between 5.1 and 7.2 mm and the diameter of the temper is 1.0 to 2.2 mm. These sherds have a grayish brown color. The remaining cord-roughened sherds are not smoothed, and range in thickness from 3.9 to 8.6 mm. The range in temper diameters is

1.0 to 2.2 mm. One sherd is distinguished by a boss protruding on the exterior surface. The diameter of the boss on the interior is 5.2 mm and its depth is 3.8 mm. The boss was made by a round ended stick when the clay was still wet.

The five plain body sherds are tempered with grit ranging between 1.0 and 2.0 mm in diameter. Sherd thickness ranges from 3.5 to 5.8 mm.

Chipped stone:

Biface fragment (Fig. 9: h):

Dimensions: Length-46.5 mm, width-54.5 mm, thickness-18.2 mm, and weight-23.4 g.

This broken specimen has a light yellowish brown color (2.5Y 6/4) and appears made from jasper or chert. Primary flaking is massive, expanding and conchoidal. There is no secondary retouch, but part of a lateral edge is crushed.

Biface fragment (Fig. 9: i):

Dimensions: Length-45.1 mm, width-45.8 mm, thickness-13.0 mm, and weight-26.4 g.

This proximal fragment is made from a grayish brown (2.5Y 5/2) chert. It appears unfinished since cortex occurs along one edge and the dorsal surface. Flaking consists of massive expanding and conchoidal flake scars.

Biface fragment:

Dimensions: Length-26.1 mm, width-21.9 mm, thickness-5.7 mm, and weight 2.2 g.

This small proximal fragment is made from quartzite with a light gray color (10YR 7/1). The base is square and the sides are asymmetrical. Primary and secondary flaking is expanding.

End scraper (Fig. 10: k):

Dimensions: Length-36.8 mm, width-21.3 mm, thickness-6.5 mm, and weight-6.0 g.

This complete artifact is made from Knife River flint. The proximal end is rounded. Primary flaking is massive and conchoidal. Secondary retouch on the distal end is steep and angular expanding. Some crushing is also evident along the dorsal end and lateral edges.

End scraper (Fig. 10: 1):

Dimensions: Length-20.0 mm, width-21.2 mm, thickness-7.6 mm, and weight 3.8 g.

This small specimen is made from a secondary flake which appears to have been heat treated. The striking platform is faceted, and secondary retouch is diminutive and discontinuous. It has a red color (2.5YR 5/8).

Chopper (Fig. 11: f):

Dimensions: Length-71.2 mm, width-48.2 mm, thickness-24.0 mm, and weight-86.1 mm.

This is a complete specimen made from a light gray (10YR 7/1) quartzite. A small amount of cortex is present on the proximal end. Primary flaking is bifacial, massive, and angular expanding. Secondary retouch occurs along a dorsal edge and is expanding.

Cores:

Dimensions: A: Length-91.5 mm, width-67.0 mm, thickness-58.0 mm, and weight-372.3 g. B: Length-48.1 mm, width-42.7 mm, thickness-383.3 mm, and weight-83.5 g.

Two pale yellow (2.5Y 7/4) quartzite cores which have had flakes struck off from all sides. Cortex occurs over 90% of the dorsal surface of each specimen. No utilization is present, but some battering and crushing is evident on the larger specimen.

Utilized flakes: Eight flakes exhibited evidence of having been used along one or more margins. Four flakes are quartzite, two are chert, one is jasper/chert, and one is Knife River flint.

Unutilized flakes: Ninety flakes did not show evidence of utilization. Raw material types included seven Knife River flint, one jasper/chert, 33 chert, and 49 quartzite.

Discussion and recommendations: Similar pottery to the bossed specimen have been found at the Stelzer site in South Dakota (Neuman 1975: 3-37) and the Vanderbloom mound in Minnesota (Wilford et. al. 1969: 17-19; 25-27). Neuman (1975: 37) estimates the date of Stelzer to be between the birth of Christ and 1400 B.P. Wilford et. al. (1969: 50) date the Vanderbloom mound at 1850 B.P. This suggests that 32RM219 is probably Woodland, and may fall within the Sonota Complex (Neuman 1975).

Future work at this site other than mapping is not recommended since it apparently will not be affected by any of the proposed construction.

32RM220

Type: Circular mound.

Location: The site is southeast of Lisbon, North Dakota on rolling terrain about 364 meters above sea level. It is approximately 274 meters east of 32RM219, and 375 meters south of the Sheyenne River. The site is in a cultivated sunflower field and the soil is composed of clay, silt, sand, cobbles, and small boulders. Two ravines leading to the river valley are north of the site.

Description: The site consists of a single circular dome-shaped structure in a plowed field. The mound is south of a historic site, 32RM221 and east of another mound group, 32RM219. The mound measures 23.5 meters north-south, 19.4 meters east-west, and is about 1.5 meters high. The site appears undisturbed except for plowing which probably has reduced the height of the mound.

Associated material:

Faunal remains: Two pieces of identifiable bone and one tooth were recovered. These are probably bison remains.

Ceramics: This category is divided on the basis of surface treatment.

Two body sherds were cord-roughened and grit-tempered. One has a reddish yellow exterior color and a gray interior. This specimen is 5.1 mm thick. The temper ranges in diameter between 1.7 and 2.6 mm. The cord markings are well impressed into the exterior of the sherd and are about 2.5 mm wide. The other specimen is 4.7 mm thick and impressed by a 2.5 mm wide cord. Its temper ranges from 0.9 to 1.5 mm. This sherd has a very dark gray color.

The single plain body sherd is grit-tempered. It has a pale brown exterior and a reddish yellow interior. It is 5.8 mm thick, and the average temper diameter is 1.6 mm.

Chipped stone:

Core fragments: The sample consists of five specimens. One has cortex over the entire dorsal surface. The remainder also exhibit small amounts of cortex, but they also have been flaked over portions of the dorsal surface. Three are quartzite and two are chert.

Utilized flakes: One Knife River flint flake, one chert flake, and three quartzite flakes were utilized along one or more edges.

Unutilized flakes: This category includes two Knife River flint flakes, seven chert flakes, one jasper/chert flake, and 10 quartzite flakes.

Discussion and recommendations: The presence of cord-roughened pottery suggest a Woodland age for this mound. The site will not be affected by any proposed construction, and no further work other than mapping is recommended at the present time.

32RM221

Type: Historic dugout.

Location: This site is southeast of Lisbon, North Dakota. It is on a terrace 343 meters above sea level overlooking the Sheyenne River about 325 meters to the northwest. The site is in prairie pasture between two ravines.

Description: The dugout consists of a circular depression which appears undisturbed. It has a depth of one meter and measures 6.4 meters north-south and 5.2 meters east-west. The depression has a small tree growing in its center, and it is filled with cans and other recent historic debris. This site is about 87 meters north of 32RM220.

Associated material: None was observed with the exception of recent historic debris.

Recommendations: The site should be preserved since it will not be affected by any proposed construction.

32RM222

Type: Circular mound.

Location: This site, in an undisturbed prairie pasture, is east of a large ravine on nearly flat river bluffs (elevation 351 meters) about 350 meters south of the Sheyenne River. It is northeast of 32RM220 and west of 32RM223.

Description: A circular mound with a diameter of 8.2 meters north-south, 7.1 meters east-west, and a height of approximately 50 centimeters. It apparently has been disturbed since a small square hole is present in the center of the mound. The site may be related to several earth lodge depressions (32RM223) about 183 meters to the east.

Associated material: None.

Recommendations: This site should be mapped even though

it will not be affected by any proposed construction. However, testing may be desirable to ascertain its relationship with 32RM223.

32RM223

Type: Village site.

Location: This site is southeast of Lisbon, North Dakota on nearly level uplands (elevation 344 meters) south of the bluffs overlooking the Sheyenne River. The site is about 375 meters south of the river.

Description: This site consists of four circular depressions and a small mound. The mound measures 15 meters north-south, 10 meters east-west, and is 40 centimeters high. Three depressions are east of the mound and one is west. The northernmost depression is bisected by a fence. The site is in pasture and appears to be undisturbed, but it is possible that additional depressions may have been filled in. Dimensions of the depressions are presented in Table 3. The site is slightly west of the area where the Sheyenne River enters the Red River valley. The depressions are similar to earth lodge depressions at Biesterfeldt (32RM1) and to earth lodge villages on the James and Missouri Rivers.

TABLE 3

DIMENSIONS OF EARTH LODGE DEPRESSIONS AT 32RM223

Earth Lodge Depression	North-South	East-West
1	12.0 m	12.0 m
2	12.5 m	11.5 m
3	13.0 m	15.0 m
4	12.5 m	12.0 m

Associated material: None.

Recommendations: The site is not in any of the specified survey areas outlined previously. However, a 1977 document reviewing flood control alternatives prepared by the Corps of Engineers indicates that the site might be affected by a dam at Larson's Bridge or at Strong Memorial Park. These plans are preliminary and subject to revision. In any case, the site should be tested in order to determine its significance. If it is an earth lodge village it should be placed on the National Register of Historic Places. Also a detailed topographic map should be prepared.

32RM224

Type: Circular mound.

Location: This site is in a cultivated field southeast of Lisbon, North Dakota. It is about 1.6 kilometers east of 32RM223. The site is on level uplands (elevation 344 meters) about 875 meters south of the Sheyenne River.

Description: This is a single circular mound which has been cultivated. It has been plowed for years resulting in almost total destruction of the mound.

Associated material: None.

Recommendations: The site will not be disturbed by any presently proposed work. Due to the conditions of the site testing is not recommended.

32RM225

Type: Earthen embankment and ditch.

Location: This site is on level uplands (elevation 351 meters) southeast of Lisbon, North Dakota. It is about 150 meters south of the Sheyenne River and west of 32RM101 and east of 32RM223.

Description: This is a large almost circular earthen embankment and ditch. It measures approximately 75 meters north-south, 90 meters east-west, and is about 1.5 meters deep. The interior is level and contains no noticeable depressions. However, there is an opening on the north side leading to the Sheyenne River, and a slight depression is in front of the ditch on the south side.

This site is about 90 meters west of 32RM101, and was recorded by W.R. Wood and D.J. Lehmer as part of 32RM101. Chomko and Wood (1972: 12) state that "... A few hundred feet west of the mound group (32RM101, parentheses mine) is a rough circular ditch and embankment about 200 feet in diameter. Its association with the mounds is problematical." Since the association of the circular ditch with burial mounds is problematical and the fact that Wood and Lehmer recorded 32RM101 from aerial photographs it was decided to give the circular ditch and embankment a separate designation. The site was also surveyed by a University of Minnesota field crew in 1959 (Elden Johnson, personal communication).

Recommendations: The site is not in any of the survey areas mentioned previously, but would be affected if Strong Memorial Dam or Larson's Bridge Dam would be constructed. These types of archaeological sites are problematical, and their function is unknown. Therefore, it should be adequately mapped and tested to determine its significance.

32RM226

Type: Open site.

Location and description: This is a large bottom land site southeast of Lisbon, North Dakota. It is north of 32RM223, 32RM225, and 32RM101. This area consists of gently rolling terrain (elevation 322 meters) about 100 meters west of the Sheyenne River. Actually, the river loops around and borders the site on three sides.

Associated material: Unfortunately, material collected from the site was misplaced, but some cord-roughened and plain, grit-tempered pottery was present.

Discussion and recommendations: The site may have a Woodland component. This area will not be affected by any of the presently proposed construction. However, the site should be resurveyed under better conditions in order to determine its extent, cultural affiliation, and relationship to some upland sites such as 32RM223, 32RM225, and 32RM101.

32RM227

Type: Tipi Rings.

Location: This site is northeast of Lisbon, North Dakota. It is on flat bluffs (elevation 343 meters) overlooking the Sheyenne River 225 meters to the south. The rings occur west of a ravine containing a live spring. North of the rings is a noticeable depression which may have been a small lake or pond.

Description: Four or five heavily sodded-in stone circles which may be tipi rings. The site has never been plowed, and is in prairie pasture. More rings may be visible when the grass is lower.

Recommendations: Tipi ring sites are believed to be evidence of the existence of nomadic Plains Indians (Nicolai et. al. 1977: 28), and probably date after 800 B.P. The site should be resurveyed to determine the exact number of tipi rings and mapped. If it is impacted by construction along Dead Colt Creek it should be tested or excavated.

32RM228

Type: Circular mound.

Location: This solitary mound is northeast of Lisbon, North Dakota. It is in a relatively flat prairie pasture on river bluffs (elevation 349 meters) about 150 meters north of the Sheyenne River.

Description: Disturbed circular mound with a diameter of 14.6 meters north-south, 15.5 meters east-west, and about 1.2 meters high. The mound was covered with prairie grass. However, a freshly dug square hole and several post hole tests were in the center of the mound. A tipi ring site, 32RM227, is 375 meters to the west.

Associated material: None.

Recommendations: Since this site is one of the few mounds north of the Sheyenne River it should be mapped and tested if it will be impacted by any proposed construction. Also an attempt should be made to stop the apparent looting that is occurring.

32RM229 (Colton Flour Mill)

Type: Historic flour mill.

Location: The site is southeast of Lisbon, North Dakota. It is adjacent to the Sheyenne River and has an elevation of about 331 meters.

Description: Portions of the site are on the north and south sides of the river, and consist of a small rock dam and cement platform on which the wheel stood. The majority of the site has been dismantled or destroyed. Flour mills were being constructed frequently during the late 1800's and early 1900's (Vehik and Vehik 1977: 62-63).

Associated material: A small rock dam and cement platform were observed.

Recommendations: It does not appear that it will be affected by any proposed construction. However, if it is a literature search should be made to see what economic significance the site had in this region.

32RM230

Type: Open site.

Location and description: This site, southeast of Lisbon, North Dakota, is in a plowed bottomland field of the Sheyenne River which is about 150 meters northeast of the site. This area is relatively flat (elevation 326 meters), but there is a slight rise along the western edge of the site. The soil is a sandy silt containing numerous small rocks. The site was tested by a University of Minnesota field crew in 1959 and may be over a meter deep (Elden Johnson, personal communication).

Associated material:

Faunal remains: Five pieces of mollusc shell, two bison teeth, one burned bone fragment, and two unburned bone fragments were recovered.

Ceramics:

Rim sherd:

The single grit-tempered rim sherd appears to be fabric-impressed (Fig. 6: j). The exterior is reddish yellow (7.5YR 6/6) and the interior is very pale brown (10YR 7/3). It is 5.7 mm thick, and the temper ranges up to 2.0 mm in diameter. The rim is straight and has a rounded lip which is tool impressed. The impressions are 2.9 mm wide, 5.9 mm apart, and 1.9 mm deep.

Body sherds: The sample consists of 43 sherds which are subdivided on the basis of surface decoration. All are grit-tempered and four are split.

Two body sherds are fabric-impressed (Fig. 7: o). They are 5.0 mm thick, and the diameter of the temper ranges up to 1.4 mm. Twenty body sherds are cord-roughened and range in thickness from 4.3 to 7.2 mm. The temper ranges from 0.8 to 3.8 mm in diameter. Two sherds are trailed. The trail impressions are 2.7 mm wide and about 5.2 mm apart. Both are 5.8 mm thick and the temper ranges up to 1.0 mm in diameter. One sherd is incised. It is 4.7 mm thick, temper diameter ranges up to 2.8 mm, and the incisions are 1.8 mm wide and 0.5 mm deep. The raminder of the pottery is plain. The range of sherd thickness is 2.8 to 5.0 mm. The temper ranges from 1.1 to 1.8 mm in diameter.

Pipe fragment (Fig. 7: p): A small portion of a ceramic pipe was recovered. It is 6.3 mm thick and tempered with grit ranging in diameter up to 1.1 mm. No decoration is present and the exterior and interior are smooth. The exterior is grayish brown (10YR 5/2) and the interior is gray (10YR 5/1).

Chipped stone:

End scraper (Fig. 10: m):

Dimensions: Length-12.2 mm, width-20.2 mm, thickness-4.7 mm, and weight-1.5 g.

This is a broken end scraper made from Knife River flint. Expanding retouch occurs along the right lateral edge and the distal end has steep angular expanding retouch.

Side scraper (Fig. 10: n):

Dimensions: Length-41.8 mm, width-24.7 mm, thickness-101.1 mm, and weight-11.5 g.

This specimen is made from a white (2.5Y N8/) quartzite. It has a plain striking platform, but a portion of the distal end and left lateral margin are broken. Primary flaking consists of massive expanding flakes. Secondary retouch along the right lateral edge is conchoidal and angular expanding.

Flake knife (Fig. 11: a):

Dimensions: Length-56.8 mm, width-14.6 mm, thickness-7.5 mm, and weight 5.4 g.

This tool is made from a curved Knife River flint flake. The ventral surface is smooth, but the dorsal surface is steep and characterized by massive, expanding and conchoidal flakes. Secondary retouch is bilateral and consists of diminutive angular expanding scars and crushing.

Utilized flakes: One Knife River flint flake and one quartzite flake were utilized.

Unutilized flakes: This group consists of the following raw material types: Two Knife River flint flakes, six chert flakes, and eight quartzite flakes.

Discussion and recommendations: A Woodland component may be posited for the site on the basis of cord-roughened, grit-tempered pottery. However, the presence of trailed body sherds and fabric-impressed pottery may suggest a later component also. Fabric-impressed pottery at least in southeastern Manitoba is associated with the Selkirk Focus (MacNeish 1958: 21) and is dated between 600 and 200 B.P. (Hlady 1970b: 280).

This site, apparently, will not be affected by any of the proposed construction. Therefore, no more work is recommended. However, material from the University of Minnesota test excavations should be analyzed and reported because this is one of few tested sites along the Sheyenne River.

32RM231

Type: Open site.

Location and description: This site is on a seven acre section of land southeast of Lisbon, North Dakota. The field is slightly rolling (elevation 329 meters) and 50 meters west of the Sheyenne River. The site is on the flood plain of the

river, and the soil is composed of silt and sand and is very rocky. Cultural materials were concentrated on the northwest portion of the field, and it is possible the site extend into a field north of a county road. If this is the case then part of the site may have been destroyed when the county road was constructed.

Associated material:

Faunal remains: The only faunal material were one burned and one unburned bone fragments.

Ceramics: One small cord-roughened, grit-tempered body sherd is represented. It is well made, and the temper is a very finely crushed grit less than 1.0 mm in diameter. It is 5.2 mm thick.

Chipped stone:

Biface midsection:

Dimensions: Length-17.5 mm, width-20.2 mm, thickness-5.5 mm, and weight-1.8 g.

This fragmentary specimen appears to be made from quartzite. The majority of the flaking is on the dorsal surface.

Core chopper:

Dimensions: Length-46.0 mm, width-63.6 mm, thickness-28.6 mm, and weight-81.6 mm.

This specimen is made from a split quartzite cobble with cortex covering 90% of the dorsal surface. The ventral face is relatively smooth. Conchoidal secondary retouch occurs along the dorsal surface.

Unutilized flakes: The sample consists of one Knife River flint flake, one chert flake, one jasper/chert flakes, and six quartzite flakes.

Discussion and recommendations: The paucity of cultural remains preclude any definite statement, but the presence of a cord-roughened, grit-tempered sherd indicates at least a Woodland affiliation to the site. The site should be re-surveyed to determine its extent, and to help clarify its archaeological placement.

32RM232

Type: Circular mound.

Location: The site is on a high bluff (elevation 358 meters) south of the Sheyenne River and 500 meters west of

Dead Colt Creek. The mound is about 15 to 23 meters above the Sheyenne River valley. A large east-west ravine is north of the site.

Description: The mound is a simple circular structure in undisturbed prairie pasture. It is about 9.1 meters north-south, 8.2 meters east-west, and has a height of about 46 centimeters. The only disturbance is a sodded-in square hole which has been dug into the center of the mound. The hole is relatively shallow, and may not have disturbed any material below the top soil.

Associated material: None.

Recommendations: If the site is disturbed by construction work along Dead Colt Creek it should be tested. Otherwise, it should be mapped and preserved.

32RM233

Type: Circular mound.

Location: This site is on the same ridge as 32RM232, but is about 25 meters further west. The mound overlooks the Sheyenne River valley to the north and is about 525 meters west of Dead Colt Creek. Its elevation is about 358 meters.

Description: The site consists of one circular mound in an undisturbed prairie pasture. There is a recently dug hole in the center of the mound, and a rodent burrow extends into the mound through this hole. The mound is about one meter high and has a diameter of 13.7 meters north-south and 12.8 meters east-west.

Associated material: One unidentifiable rib fragment was recovered from the rodent burrow.

Recommendations: The site should be tested if it is impacted by construction along Dead Colt Creek. Otherwise, it should be mapped, and attempt should be made to preserve it from additional looting.

32RM234

Type: Open site.

Location and description: This site, southwest of Lisbon, North Dakota, is in a plowed field overlooking Timber Coulee which is about 250 meters to the south. This area consists of rolling terrain (elevation 367 meters) and is composed of clay, silt, sand, cobbles, and small boulders. The site appears to be confined to the north and east edges of a

large natural depression. This may have been a pond at one time since an intermittent stream flows south through the field overlooking Timber Coulee.

Associated material:

Faunal remains: This group consists of five bone fragments.

Chipped stone:

Projectile point fragment (Fig. 8: l):

Dimensions: Length-17.8 mm, width-17.5 mm, thickness-3.9 mm, and weight-1.5 g.

This corner-notched point is broken along the distal end and the tangs are broken. The base is straight and slightly ground or rounded. Primary flaking is bifacial and conchoidal. Secondary retouch is angular expanding. It is made from a pink colored (5YR 7/4) chert.

Point midsection (Fig. 8: m):

Dimensions: Length-16.1 mm, width-19.6 mm, thickness-4.9 mm, and weight 1.6 g.

This fragmentary specimen is made from a light gray (7.5YR N7/) quartzite. Primary flaking is conchoidal and secondary retouch is diminuitive and expanding.

Biface fragment (Fig. 9: j):

Dimensions: Length-39.4 mm, width-27.6 mm, thickness-10.1 mm, and weight-12.8 g.

This appears to be an unfinished biface with part of the distal end broken. It is made from quartzite and has a very pale brown color (10YR 8/3). Primary flaking is massive and conchoidal. Secondary retouch is discontinuous and angular expanding.

Biface fragment (Fig. 9: k):

Dimensions: Length-25.6 mm, width-27.4 mm, thickness-7.5 mm, and weight 6.1 g.

This is a distal biface fragment with conchoidal flaking. Retouch is angular expanding and conchoidal. It is made from a white quartzite (5Y 8/1).

Biface fragment (Fig. 10: a):

Dimensions: Length-16.6 mm, width-44.1 mm, thickness-10.3 mm, and weight 6.4 g.

This distal fragment appears to be heat treated. It is made from a reddish yellow (5YR 6/1) chert. Primary flaking is massive consisting of conchoidal and expanding flake scars. There is no apparent secondary retouch.

End scraper (Fig. 11: b):

Dimensions: Length-26.8 mm, width-19.5 mm, thickness-6.0 mm, and weight-3.3 g.

This complete tool is made from a light red (2.5YR 6/8) chert flake which may have been heat treated. A small amount of cortex is present on the dorsal surface. The striking platform is faceted. Flaking along the distal edge is steep and expanding. Retouch is diminuitive and angular expanding.

Choppers:

Dimensions (largest specimen): Length-50.7 mm, width-64.5 mm, thickness-35.0 mm, and weight 107.4 g.

Three large specimens may have been used as chopping implements. They are made from large quartzite core flakes or core fragments. They are characterized by small amounts of cortex on the dorsal surface and large, massive conchoidal and expanding flake scars on both surfaces. Retouch is discontinuous and angular expanding and conchoidal.

Utilized flakes: Twenty three flakes had evidence of use along one or more lateral edges. Raw materials include one jasper, 11 chert, and 11 quartzite flakes.

Unutilized flakes: Raw material types include four jasper flakes, 57 chert flakes, and 71 quartzite flakes.

Discussion and recommendations: The location of this site on high bluffs away from the major river valley (Sheyenne River) and the fact that no pottery was recovered indicates that the site is preceramic, probably Archaic. Similar point types occur in preceramic assemblages on the northern Plains (Neuman 1964: 187, Fig. 3 and Simpson 1970: 143, Fig. 38).

The site may be affected by construction along Timber Coulee. As a result it should be resurveyed under better conditions to obtain a larger sample of diagnostic artifacts. Testing should also be done in order to determine site extent and assess its significance.

32RM235

Type: Open site.

Location and description: This site is northeast of Lisbon, North Dakota. It is on a high ridge (elevation 314 meters) about 100 meters east of a sharp bend of the Sheyenne River. There is a large natural depression south of the site, but some cultural materials occurred southeast it. Most of the pottery was found on the north slope of the depression. This was a plowed field and the soil was a dark brown loamy silt containing few rocks.

Associated material:

Faunal remains: These consisted of three probable bison teeth, one bone fragment, and one mollusc shell fragment.

Ceramics: The sample consists of two rim and 87 body sherds.

Rim sherds:

One specimen is a straight cord-roughened rim sherd tempered with crushed grit and shell (Fig. 6: k). It has a very pale brown color (10YR 7/3). The lip is rounded and undecorated. The sherd is 5.3 mm thick and the grit-temper has a diameter ranging up to 1.6 mm. The shell inclusions range up to 1.8 mm in diameter. The cord impressions are 2.0 mm wide.

The other rim is characterized by a rounded lip and deep, broad tool impressions on the lip exterior (Fig. 7: a). These are 8.6 mm long, 3.8mm wide, 3.0 mm deep, and 8.0 mm apart. The sherd is 6.7 mm thick and has a brown color (7.5YR 5/2). It is shell-tempered which ranges in diameter up to 2.2 mm.

Body sherds: The sample of 87 sherds is divided on the basis of surface treatment and temper. The greatest number (45) are cord-roughened, shell-tempered sherds. There are also three split, shell-tempered sherds. The whole sherds range in thickness from 3.8 to 7.6 mm. The temper consists of fine to large platlets of shell ranging up to 5.0 mm in diameter. The width of cord impressions range from 1.0 to 3.0 mm.

Two shell-tempered sherds were plain and one was incised. The plain sherds were 4.8 and 8.3 mm thick. The temper ranged up to 5.0 mm in diameter. The temper on the incised specimen had a diameter of 2.0 mm. It was 6.4 mm thick. The incisions were 1.5 mm wide and 7.4 mm apart.

Twenty nine cord-roughened sherds were grit-tempered. Sherd thickness ranged between 4.0 and 7.2 mm, and the average width of the cord impressions was 2.7 mm. The temper ranged up to 2.8 mm in diameter.

Five plain body sherds and one basal sherd were grit-tempered. The body sherds ranged in thickness from 4.2 to 7.1 mm, and the temper ranged up to 2.2 mm in diameter. The basal sherd is from a conoidal based vessel and is 7.1 mm thick. The temper has a diameter of 1.2 mm.

Chipped stone:

Triangular unnotched projectile point (Fig. 8: n):

Dimensions: Length-17.8 mm, width-14.7 mm, thickness-3.5 mm, and weight-0.9 g.

This complete artifact is made from a light brownish gray (10YR 6/2) chert. The base is straight and it has a triangular outline. Primary flaking is bifacial and expanding. Secondary retouch is diminuitive, discontinuous, and angular expanding.

Biface fragment:

Dimensions: Length-13.4 mm, width-23.3 mm, thickness-2.7 mm, and weight-0.9 g.

This broken specimen has expanding and conchoidal flaking. It is made from a white (10YR 8/1) quartzite.

End scraper (Fig. 11: c):

Dimensions: Length-19.2 mm, width-16.4 mm, thickness-5.7 mm, and weight-1.6 g.

This specimen is made from Knife River flint. The dorsal surface has conchoidal and expanding primary flaking. The distal edge has angular expanding flaking. Lateral edges are retouched along the ventral surface.

Utilized flakes: This group is composed of two Knife River flint flakes, one chert flake, and one quartzite flake.

Unutilized flakes: This group is made up of 21 flakes. Raw material types include: one jasper/chert, two Knife River flint, seven chert, and 11 quartzite.

Discussion and recommendations: Two components may be present at the site. The earlier one may be a Woodland component as suggested by the cord-roughened, grit-tempered pottery. The other component probably postdates 1000 B.P. as indicated by the cord-roughened and plain, shell-tempered pottery and the triangular unnotched point. This site may be related to 32RM235, about 1.6 kilometers to the northwest.

The site should be resurveyed under better conditions and tested to determine its extent and relationship to 32RM235. It is in the proposed Kindred Reservoir area.

32RM236

Type: Circular mound.

Location: This site is northeast of Lisbon, North Dakota. It is on a small knoll about 100 meters south of the Sheyenne River, and 320 meters above sea level.

Description: The mound is a small circular structure measuring 13 meters in length and width and about 50 centimeters high. Several depressions occurred on top of the mound. The north edge of the mound is less visible since it is on the slope of a hill. The site was excavated by a field crew from the University of Minnesota in 1959 and 1960 (Elden Johnson, personal communication).

Associated material: Human skeletons, pottery, chipped stone tools and flakes, burned and unburned bone, charcoal, and wood.

Recommendations: No additional fieldwork needs to be done at this site. However, since this is one of few excavated sites in the proposed Kindred Reservoir area a report should be prepared. Radiocarbon determinations should also be obtained to place the mound in a chronological framework with other similar structures in eastern North Dakota and the northern Plains.

32RM237

Type: Open site (lithic scatter).

Location and description: The site is in a cultivated field southwest of Lisbon, North Dakota overlooking Timber Coulee. The area has an elevation of 369 meters and consists of gently rolling terrain with numerous small natural depressions. Most of the cultural materials occurred to the north and west of a natural depression. The field is extremely rocky and is composed of clay, silt, sand, cobbles, and small boulders. It is about 200 meters south of Timber Coulee and west of 32RM238 and 32RM239. Also 32RM234 is almost directly north, but on the other side of Timber Coulee.

Associated material:

Faunal remains: Only one bone fragment was recovered.

Chipped stone: Three chert flakes exhibited evidence of use along one or more lateral edges. Seven chert and 10 quartzite flakes were unutilized. Some of these may be core fragments or core flakes. Also three unused rocks were recovered.

Discussion and recommendations: This is a possible preceramic site located on high bluffs south of Timber Coulee and two miles west of the Sheyenne River. This area may be affected by work along Timber Coulee, and the site should be resurveyed in order to obtain more diagnostic material and to determine its extent and relationship to 32RM234, 32RM238, and 32RM239.

32RM238

Type: Open site (lithic scatter).

Location and description: This site is southwest of Lisbon, North Dakota. It is in an upland area (elevation 366 meters) overlooking Timber Coulee which is 350 meters to the south. A small depression is east of the site. This area at the time of the survey was cultivated and the soil was a mixture of clay, silt, sand, cobbles, and small boulders.

Associated material:

Faunal remains: One possible bison bone was recovered.

Chipped stone:

Side-notched projectile point (Fig. 8: o):

Dimensions: Length-20.6 mm, width-12.1 mm, thickness-3.9 mm, and weight-0.7 mm.

This is a small triangular side-notched point made from a light gray (2.5Y 7/2) chert. Part of the base is broken. Primary flaking is bifacial and expanding. There does not appear to be any secondary retouch. Notching is U-shaped and is 1.7 mm wide and 2.0 mm deep.

Unutilized flakes: This group makes up over 90% of the material recovered. Nine flakes have flake scars and cortex on the dorsal surface and may represent core fragments or flakes. Also three flakes appear heat treated. Raw material types include: one sedimentary rock, one Knife River flint flake, 15 chert flakes, and 29 quartzite flakes.

Discussion and recommendations: No adequate assessment can be made of this site at the present time. The projectile point falls within the range of Prairie Side-Notched points and suggests a relatively recent age. However, it was not found in the concentration of unutilized flakes and may be intrusive. The location of the site, on high bluffs away from the Sheyenne River valley, suggests that the site might be preceramic, and may be Archaic in age. It is in close proximity to three other preceramic sites: 32RM234, 32RM237, and 32RM239.

In any case, this area may be affected by work along Timber Coulee and the site should be resurveyed under better conditions in order to assist in determining cultural affiliation, extent, and significance.

32RM239

Type: Open site (lithic scatter).

Location and description: This site, southwest of Lisbon, North Dakota, is on an upland bluff (elevation 393 meters) overlooking Timber Coulee 250 meters to the north. This area is characterized by gently rolling terrain and numerous small depressions. Soil conditions were a dry, plowed field consisting of clay, silt, sand, cobbles, and small boulders.

Associated material:

Faunal remains: Two fragmentary pieces of bone were recovered.

Chipped stone: Two chert flakes exhibited evidence of utilization along one or more lateral edges. Unutilized flakes consisted of 31 specimens. Eight appear to be core fragments or core flakes. Twelve were chert flakes, 18 were quartzite, and one was an unutlized rock.

Discussion and recommendations: No definite cultural affiliation can be made. However, the location of the site on high bluffs away from the Sheyenne River valley may indicate that it is preceramic, possibly Archaic. The site is in close proximity to 32RM234, 32RM237, and 32RM238, and may be affected by construction along Timber Coulee. Therefore, it should be resurveyed under better conditions in order to determine cultural affiliation, extent, whether testing should be done, and significance.

32RM240

Type: Open site.

Location and description: This site is southwest of Lisbon, North Dakota. It is in a plowed field which is gently rolling and has an elevation of about 366 meters. It is west of Timber Coulee, but the closest source of water is a small intermittent stream approximately 450 meters north of the site. There is also a small depression south of the site. The soil is intermixed with clay, silt, sand, cobbles, and small boulders.

Associated material:

Chipped stone:

Corner-notched projectile point (Fig. 8: p):

Dimensions: Length-20.6 mm, width-14.7 mm, thickness-4.5 mm, and weight-1.5 g.

This specimen is made of a very dark gray (2.5Y N3/) chert. The tip is broken, and an impact fracture occurs on the ventral surface. The point is symmetrical, and the blade outline is triangular. The notches are 1.4 mm deep and are U-shaped, and expand toward the base. The base is straight and appears to have been ground or rounded. Primary and secondary flaking is bifacial and consists of expanding and conchoidal flake scars.

Unutilized flakes: Three quartzite flakes and one chert flake comprise this category.

Discussion and recommendations: This is a possible preceramic (Archaic) site. It is situated in a high upland area overlooking Timber Coulee and away from the Sheyenne River valley. Also no pottery was recovered, and the projectile point is similar to point styles found in preceramic assemblages in the northern Plains (Neuman 1964: 187, Fig. 3 and Simpson 1970: 143, Fig. 38).

This site apparently will not be affected by any of the proposed construction. However, if additional work is conducted at 32RM234 it should be resurveyed in order to obtain additional diagnostic materials.

SUMMARY AND INTERPRETATIONS

A four week long archaeological survey was undertaken of selected portions of the Sheyenne River during the fall of 1977. Five historic and 56 prehistoric sites were recorded. All of these had been previously unrecorded, but at least 11 were reported as site leads.

A listing of the sites and their locations is presented in the Appendix. All of the sites recorded during the survey were on private land. Therefore, it is imperative that locations of these sites remain confidential. Six sites were recorded in Cass County, 16 in Griggs County, and 39 in Ransom County. The majority of sites (40) were open or camp sites situated for the most part in alluvial bottom lands along the Sheyenne River. One village site (32RM223) had evidence of earth lodge depressions and either a small burial mound or trash mound. Fourteen sites were earthenwork structures, either burial mounds (13) or earthen embankments (1), one was a tipi ring site, and five were historic sites.

All but three camp sites occurred in plowed fields and have been partially destroyed or disturbed through plowing. In fact, all but one camp site have been plowed at one time or another. The only site, 32RM223, which has not been plowed is situated in an area that will not be impacted by any of the presently proposed flood control alternatives surveyed during this study. With the exception of Pigeon Point (32RM216) none of the historic sites appear disturbed. The tipi ring site (32RM227) also has not been disturbed. Four mound sites (32RM207, 32RM218, 32GG224, and 32GG228) and the earthen entrenchment (32RM225) are situated in pastures and appear undisturbed. Four mound sites have been disturbed by at least plowing (32RM219, 32RM220, 32RM224, and 32GG226), and five mound sites in pastures (32RM217, 32RM222, 32RM228, 32RM232, and 32RM233) may have been dug into. One mound (32RM236) was excavated in 1959 or 1960 by a field crew from the University of Minnesota, but it has not been analyzed or reported yet.

Six sites were recorded in Area 1 north of West Fargo, North Dakota. No sites were recorded in either Area 2 south of West Fargo, North Dakota or in Area 3 along both sides of Highway 46 southeast of Kindred, North Dakota. Seventeen sites (one has been excavated) are from Area 4, the proposed

Kindred Reservoir area. All of these are from Ransom County. No sites were recorded in Richland County. Two sites in Area 5 are in close proximity to Dead Colt Creek, and four sites are from Area 6 southwest of Lisbon, North Dakota near Timber Coulee. Sixteen sites were recorded from areas along the lower Sheyenne River basin which apparently will not be impacted by any of the presently proposed flood control alternatives surveyed during this study.

Sixteen sites were recorded in the area southeast of Cooperstown, North Dakota in Griggs County.

Recently, the St. Paul District, Corps of Engineers (1977) published a preliminary summary outlining alternatives for flood dam reduction in the Sheyenne River basin. At least 76 alternatives including levees, diversions, channelization, drainage ditches, highways and bridges, snagging and clearing, wetlands, and dams and reservoirs along the main stems of the Sheyenne and Maple Rivers and their tributaries are briefly discussed and described. A minimum of 12 of these alternatives may impact archaeological sites recorded during the survey. Table 4 provides a summary of this information. The first nine alternatives covered specific areas which were surveyed during the present study. The last three alternatives were not specific items of the present Contract, but archaeological sites were recorded which may be impacted. Also three previously known archaeological sites (32RM1, 32RM101, and 32RM201) are incorporated in the Table. Sites which will be impacted by various alternatives are designated with an "X".

Summarizing the Table, three sites will not be affected by any of these alternatives. On the other hand, one site may be impacted by four alternatives, six sites may be affected by three alternatives, 17 sites by at least two alternatives, 29 sites by one alternative, and eight sites are questionable whether they will be impacted by any of the proposed alternatives. It should be strongly emphasized that these are preliminary flood control alternatives and not all will be implemented.

The fact that no archaeological sites were recorded in some areas does not necessarily imply that these regions were not prehistorically occupied. This may be a result of the fact that some sites are deeply buried or that the ground surface was not visible. For instance, in the southern portion of survey area 2 several landowners mentioned that artifacts had been found, but they could not recall by whom or where.

Seventeen sites were recorded in the western part of the proposed Kindred Reservoir (survey area 4) in Ransom County. However, no sites were located in Richland County.

TABLE 4

IMPACT OF ARCHAEOLOGICAL SITES BY PROPOSED FLOOD CONTROL ALTERNATIVES

	Levees: Harwood	Levees: West Fargo to Harwood	Levees: Harwood to the Red River of the North	Levees: Kindred to the Red River of the North	Channelization: Sheyenne River-Kindred to mouth	Kindred Dam (M-76)	Baldhill Dam (M-271)	Tributary Dam (T-150) Dead Colt Creek	Tributary Dam (T-158) Timber Coulee	Highway 18 Dam (M-86)	Larson's Bridge Dam (M-110)	Strong Memorial Park Dam (M-138)
32CS201			X	X	X							
32CS202		X		X	X							
32CS203		X		X	X							
32CS204		X		X	X							
32CS205	X	X		X	X							
32CS206			X	X	X							
32GG221							X					
32GG222							X					
32GG223							X					
32GG224												
32GG225							X					
32GG226							X					
32GG227							X					
32GG228							X					
32GG229							X					
32GG230							X					
32GG231							X					
32GG232							X					
32GG233							X					
32GG234							X					
32GG235							X					
32GG236							X					
32RM1											X	X
32RM101												X
32RM201					EXCAVATED SITE							
32RM202						X					X	
32RM203						X					X	
32RM204						X					X	
32RM205						X					X	
32RM206						X					X	
32RM207						X					X	
32RM208						X					X	
32RM209						X				X		
32RM210						X				X		
32RM211						X				X		

TABLE 4 continued

	Levees: Harwood	Levees: West Fargo to Harwood	Levees: Harwood to the Red River of the North	Levees: Kindred to the Red River of the North	Channelization: Sheyenne River-Kindred to mouth	Kindred Dam (M-76)	Baldhill Dam (M-271)	Tributary Dam (T-150) Dead Colt Creek	Tributary Dam (T-158) Timber Coulee	Highway 18 Dam (M-86)	Larson's Bridge Dam (M-110)	Strong Memorial Park Dam (M-138).
32RM212						X				X		
32RM213						X				X		
32RM214						X				X		
32RM215						X				X		
32RM216						X				X		
32RM217												X
32RM218												X
32RM219												X
32RM220												X
32RM221												X
32RM222												X
32RM223												X
32RM224												X
32RM225												X
32RM226												X
32RM227												?
32RM228												?
32RM229												?
32RM230												X
32RM231												?
32RM232								X				
32RM233								X				
32RM234									?			
32RM235						X					X	
32RM236					EXCAVATED SITE							
32RM237									?			
32RM238									?			
32RM239									?			
32RM240												

This is probably a result of the heavy ground cover, and relative lack of cultivated fields in the survey portion of Richland County. The same holds true for regions along Dead Colt Creek and Timber Coulee.

Essentially, the Sheyenne River valley, especially along the lower and middle river basins appears to have been utilized fairly extensively during prehistoric times. Table 5 provides a listing of sites and their possible cultural affiliation. It should be remembered that cultural affiliations were determined from surface collections and should be regarded as extremely tentative until they can be more accurately determined through testing and excavations.

A breakdown of Table 5 indicates that the majority (28) were Woodland sites, but 14 of these were burial mounds. Seven sites are believed to be represented by Woodland and Mississippian components. Five sites are preceramic, and are probably Archaic camps. Five sites were characterized by materials similar to Plains Village sites. Five were historic sites. Two sites are characterized by Mississippian and Plains Village components. The single tipi ring site is believed to represent nomadic Plains Indians, and eight sites did not have sufficient material to determine cultural affiliation.

A number of propositions were developed by Vehik and Vehik (1977: 80-84), and it is possible to tentatively test these using site data collected during the survey.

Proposition 1: Paleo-Indian and Archaic occupations have been eroded away and/or are lying deeply buried on higher terraces or they also may be on other areas of high ground which are either not generally subject to survey or else are covered with vegetation.

Five preceramic sites were located on high ground approximately 2.4 kilometers west of the Sheyenne River. These sites are about 366 meters above sea level. Four are in close proximity to Timber Coulee which drains these uplands and flows into the Sheyenne River south of Lisbon, North Dakota. The sites were situated in cultivated fields, and four were associated with some form of natural depression. In fact, the depression by 32RM234 has a small intermittent stream flowing from it south to Timber Coulee. Therefore, it appears that preceramic sites, at least in the Drift Prairie, tend to be found on higher ground away from the Sheyenne River valley, and are associated with some form of natural depression. The question of whether this type of site has been eroded away and/or are lying deeply buried on higher terraces remains to be tested.

TABLE 5

RECORDED ARCHAEOLOGICAL SITES AND THEIR

TENTATIVE CULTURAL AFFILIATION

Site	Site Type	Possible Affiliation
32CS201	Campsite	Woodland
32CS202	Campsite	Woodland
32CS203	Historic	Historic-ca. 1892
32CS204	Campsite	Woodland
32CS205	Campsite	Woodland/Mississippian
32CS206	Campsite	Unknown
32GG221	Campsite	Woodland/Mississippian
32GG222	Campsite	Woodland/Mississippian
32GG223	Campsite	Woodland
32GG224	Mound	Woodland
32GG225	Campsite	Woodland
32GG226	Mound	Woodland
32GG227	Campsite	Woodland/Mississippian
32GG228	Linear mounds	Woodland
32GG229	Campsite	Unknown
32GG230	Historic	Historic
32GG231	Campsite	Woodland
32GG232	Campsite	Woodland
32GG233	Campsite	Woodland
32GG234	Campsite	Woodland
32GG235	Campsite	Unknown
32GG236	Campsite	Unknown
32RM202	Campsite	Woodland
32RM203	Campsite	Plains Village
32RM204	Campsite	Woodland/Mississippian
32RM205	Campsite	Woodland
32RM206	Campsite	Woodland
32RM207	Mound	Woodland
32RM208	Campsite	Plains Village
32RM209	Campsite	Mississippian/Plains Village
32RM210	Campsite	Unknown
32RM211	Campsite	Mississippian/Plains Village
32RM212	Campsite	Unknown
32RM213	Campsite	Plains Village
32RM214	Campsite	Unknown
32RM215	Campsite	Plains Village
32RM216	Historic	Historic-1867
32RM217	Mound	Woodland
32RM218	Mound	Woodland
32RM219	Mound	Woodland
32RM220	Mound	Woodland
32RM221	Historic	Historic
32RM222	Mound	Woodland

TABLE 5 continued

Site	Site Type	Possible Affiliation
32RM223	Village	Plains Village
32RM224	Mound	Woodland
32RM225	Earthen Embankment	Unknown
32RM226	Campsite	Woodland
32RM227	Tipi Rings	Nomadic Plains Indians
32RM228	Mound	Woodland
32RM229	Historic	Historic
32RM230	Campsite	Woodland/Mississippian
32RM231	Campsite	Woodland
32RM232	Mound	Woodland
32RM233	Mound	Woodland
32RM234	Campsite	Preceramic
32RM235	Campsite	Woodland/Mississippian
32RM236	Excavated mound	Woodland
32RM237	Lithic scatter	Preceramic
32RM238	Lithic scatter	Preceramic
32RM239	Lithic scatter	Preceramic
32RM240	Lithic scatter	Preceramic

Proposition 2: Mounds, especially those associated with the Woodland period are almost invariably located on uplands overlooking river valleys.

This proposition appears to be valid in regard to the burial mounds located during the survey. The only mound which was not situated on high ground overlooking the Sheyenne River was 32RM236. This mound has been excavated, and apparently was situated next to an old river channel on the slope of a hill south of the present course of the Sheyenne River.

Proposition 3: More recent open sites tend to be on river bottomlands, sometimes along abandoned stream channels.

This appears to be valid, but it could also be a reflection that the survey was not statistically valid since the majority of the areas surveyed were in the Sheyenne River bottomlands. These areas also tend to be plowed more often than the uplands. At least two sites, 32RM223, a possible Plains Village earth lodge site and 32RM203, a Plains Village campsite are situated on uplands overlooking the Sheyenne River valley. The latter site is plowed and 32RM223 has noticeable depressions. However, the remainder of open sites (camp sites) were situated in bottomlands, and many are associated with natural depressions, intermittent streams, or possible old river channels.

Proposition 4: Tipi rings may occur either in upland areas overlooking river valleys or on river bottomlands.

Since only one tipi ring site, 32RM227, was located this proposition cannot be adequately tested. However, the site is on uplands overlooking the Sheyenne River. It is also associated with a natural depression.

Proposition 5: Bison kill sites may be found in certain coulee/gully areas (Larson 1976: 10-13).

This proposition could not be tested since no bison kill sites were found. It appears that most of the recovered faunal remains may be bison elements, and bison kill sites should be present.

Proposition 6: Data regarding Middle Woodland occupations along the Red River valley is limited, but it is possible that this area was occupied by groups more similar to the Laurel Culture.

Six sites located in Cass County are in the Red River valley. One was a historic site, three are Woodland, one has a Woodland and Mississippian component, and one is of unknown affiliation. Due to the general nature of the sites

this proposition could not be tested. Additional survey and excavations need to be conducted in order to adequately test this proposition.

Proposition 7: Village sites in the Red River valley tend to be located beside modern stream channels.

This proposition appears to be valid based on the limited number of recorded sites in Cass County. All of the sites were adjacent to the Sheyenne River, and two were close to the confluence of the Maple and Sheyenne Rivers and one was in the junction of the Sheyenne and Red Rivers.

Proposition 8: Mississippian/Plains Village groups utilized the Drift Prairie primarily for hunting with few or no permanent settlements being built.

In order to test this proposition adequately testing and excavations must be conducted. However, in Ransom County 14 sites (38 percent) have tentative Mississippian/Plains Village components. The Biesterfeldt site, 32RM1, is not included. The majority of these sites tend to be fairly large, and may be substantial settlements. On the basis of this at least the eastern edge of the Drift Prairie seems to have been utilized fairly extensively by Mississippian/ Plains Village groups. No Mississippian/Plains Village sites were located in Griggs County. However, tentatively identified Mississippian components were noted at three sites in Griggs County.

RECOMMENDATIONS AND CONCLUSIONS

Recommendations

Five historic and 56 prehistoric sites were located and recorded in seven proposed flood control alternative areas and adjacent localities along the Sheyenne River in eastern North Dakota. At least 45 sites fall within the survey areas covered by this Contract.

At the present time it is impossible to determine the value of these sites in regard to their nomination to the National Register of Historic Places. Test excavations of these sites and additional survey will be necessary before such an evaluation can be made. Such excavations will help provide information as to site size, number of cultural components, cultural affiliation, stratigraphic relationships, and preservation.

Additional survey is also necessary under better conditons. These should be conducted in the spring or early summer before crops and vegetation get too high. An attempt should also be made to survey along river banks and other cut banks in order to ascertain whether any deeply buried sites are present. The surveying of river banks has been successfully performed by the use of boats or canoes in addition to surface survey in other areas of North Dakota (Good et. al. 1977a: 217-218). and Leaf 1976). This approach might be successful in areas where the ground surface adjacent to river banks is obscured by trees and vegetation. It might also prove useful in areas where snagging and clearing fallen trees along river banks are being planned. Also an attempt should be made to accurately measure and map all of the earthenwork structures such as mounds as well as tipi ring sites.

Future work should also involve a more extensive knowledge of basin geomorphology and botany as well as palynological and malacological investigations in order to explore the relationship between climatic and cultural data.

Geomorphological studies will be necessary to define possible Paleo-Indian and Archaic site locations. They will also be useful in understanding relationships between old river channels, intermittent streams, and natural depressions which may have been small ponds or lakes and archaeological sites.

Good et. al. (1977a: 79) in discussing the James River valley aptly point out two reasons why an analysis of natural vegetation is necessary. "1) Knowledge of the valley habitat was vital to the survival of prehistoric people. Archaeological work must incorporate this knowledge in an attempt to understand the subsistence patterns of these people. 2) Baseline information concerning the interlocking networks of the valley's ecosystems must be gathered previous to proposed construction and/or irrigation, so the effects of the change can be closely monitored."

Future work, especially testing and excavations should also concentrate on establishing a regional chronology of the lower and middle Sheyenne River basins. In fact, the only radiocarbon dates derived from archaeological sites in the lower and middle Sheyenne River basins are from 32BA1 in Barnes County (Moran et. al. 1973: 45) and 32RM201 in Ransom County (Good 1975: 8). The development of a regional chronology would greatly assist in understanding relationships within and between sites in the Sheyenne River basin and allow the integration of data with better known archaeological areas of North Dakota and adjacent states. It is difficult to evaluate the importance of one site over another, at this time, because there are no data with which to make comparisons.

In this context, the transition from the Archaic to Woodland period should receive some effort. Additional work should also concentrate on culture histories of the Drift Prairie and Red River valley. It is possible that differences may have become important during at least the Late Archaic. If not, attention should be devoted to exploring this possibility with Middle Woodland sites (Vehik and Vehik 1977: 83).

Additional effort should also be directed toward understanding the nature of Late Woodland occupations and the transition from Woodland to Mississippian/Plains Village.

Another aspect of future work needs to incorporate historical studies. Five historical sites were recorded, but Vehik and Vehik (1977: 121, Fig. 8) and Sherrod (1970) have pointed out that other historically important sites occur in the lower and middle Sheyenne River basins. Basically, the historical evaluation should include archival and literature reviews, on-ground reconnaissance to determine the location of additional sites, a study of the architectural potential of existing buildings, and an evaluation of historical developments (Vehik and Vehik 1977: 84).

Additional efforts should also be concentrated on testing the propositions developed by Vehik and Vehik (1977) and discussed in the preceeding section.

An attempt should also be made for the conservation and preservation of archaeological resources along the Sheyenne River. The survey recorded a number of sites which appear undisturbed or only slightly disturbed. Certainly, it would be worthwhile to preserve some of these sites. Probably, the most important site is 32RM1, Biesterfeldt. Even though this site was not directly surveyed in any of the areas presently studied it should be preserved. Also several earthenwork structures such as burial mounds and earthen entrenchments as well as 32RM223, southeast of Lisbon and Cooperstown, North Dakota, are undisturbed and should be preserved.

Finally, it should be pointed out that seven areas were surveyed in a period of four weeks. As a result no area was adequately surveyed. For instance, approximately ten days were spent in the Kindred Reservoir area (Area 4) and the areas southeast of Lisbon, North Dakota (Areas 5 and 6). In order to do an adequate reconnaissance of cultural resources in any of these regions requires extensive surveys and more time. Also it would have been helpful if these areas had been delineated in the Scope of Work, and aerial photgraphs provided for each area.

Conclusions

In conclusion, the work undertaken conforms to what has been described as archaeological research at a preliminary planning level (Schiffer and Gumerman 1977: 12). Essentially, eight alternative areas outlined by the St. Paul District, Corps of Engineers were surveyed. Six sites were recorded in Area 1, 17 in Area 4, two in Area 5, four in Area 6, and 16 in Area 8. Area 7 was not surveyed at all by consent of the Contractor, and no sites were located in Areas 2 and 3. The recorded sites included for the most part burial mounds, open sites, and historic sites. Culturally, these sites are believed to range from preceramic through late prehistoric Mississippian/Plains Village sites.

A large part of the report concentrated on site and artifact descriptions. It is believed that detailed artifact descriptions were necessary in order to better understand prehistoric groups utilizing the Sheyenne River basin, and to provide a basis for comparisons with adjacent regions. It should also be pointed out that archaeologically this region of North Dakota is poorly known, and with the exception of a few sites there are no descriptions of cultural materials. Following this an attempt was made to relate the sites with the survey areas provided by the Corps of Engineers. Also several propositions developed by Vehik and Vehik (1977) for the research area and its adjacent regions were minimally tested.

Finally, a series of recommendations were formulated regarding future work in the area. These included efforts toward 1) additional survey, 2) test excavations, 3) the definition and comparison of Drift Prairie and Red River valley adaptive patterns through time, 4) geomorphological as well as palynological and malacological analyses to study paleoenvironments and assist in locating Paleo-Indian and Archaic sites, 5) the development of a regional chronology, 6) historical studies, and 7) the conservation and preservation of archaeological resources in the Sheyenne River basin.

It is recognized that not all of these recommendations will be implemented, and some require survey and testing outside of specific project areas. However, there is a great potential for sites in this area to help provide more information concerning environmental adaptations and spatial distributions of prehistoric populations. Such information is gained only through detailed surveys and well-designed and executed excavation strategies. Hopefully, the current project will provide a basis for further investigations into these research problems.

FIGURE 5. RIMSHERDS

A. 32CS201: Plain, grit-tempered rim sherd.

B. 32CS201: Plain, grit-tempered rim sherd.

C. 32CS201: Cord-roughened, grit-tempered rim sherd.

D. 32CS201: Top view of plain, grit-tempered rim sherd.

E. 32CS205: Cord-roughened, grit-tempered rim sherd.

F. 32CS205: Cord-roughened, grit-tempered rim sherd.

G. 32GG221: Cord-roughened, grit-tempered rim sherd.

H. 32GG221: Top view of simple-stamped, grit-tempered rim sherd.

I. 32GG225: Cord-roughened, grit-tempered rim sherd.

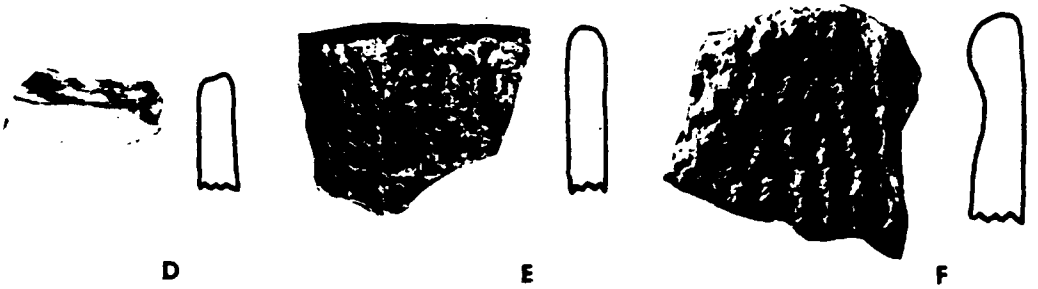
J. 32GG225: Top view of tool-impressed, grit-tempered rim sherd.

K. 32GG225: Bossed and incised, grit-tempered rim sherd.

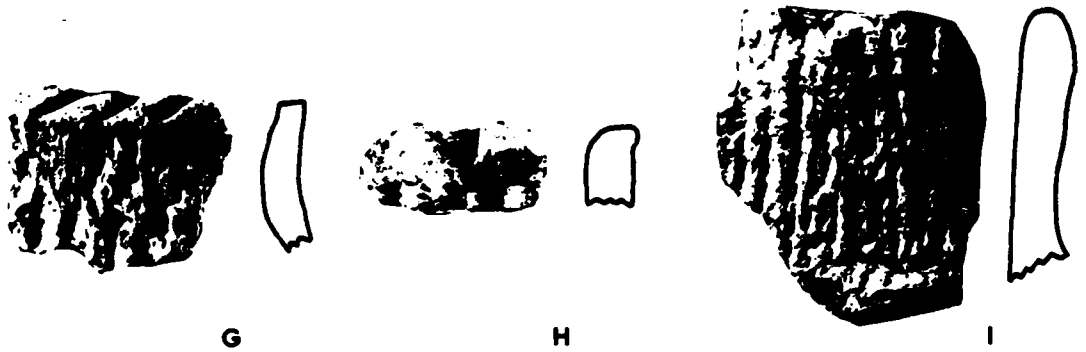
L. 32GG225: Plain, grit-tempered rim sherd.

Scale: Actual Size

A B C



D E F



G H I

J K L

FIGURE 6. RIMSHERDS

A. 32GG227: Indented, grit-tempered rim sherd.

B. 32GG227: Plain, grit-tempered rim sherd.

C. 32RM209: Tool-impressed, grit-tempered rim sherd.

D. 32GG232 Punctated, grit-tempered rim sherd.

E. 32RM209: Tool-impressed, shell-tempered rim sherd.

F. 32RM209: Plain, grit-tempered rim sherd.

G. 32RM209: Simple-stamped, grit-tempered rim sherd.

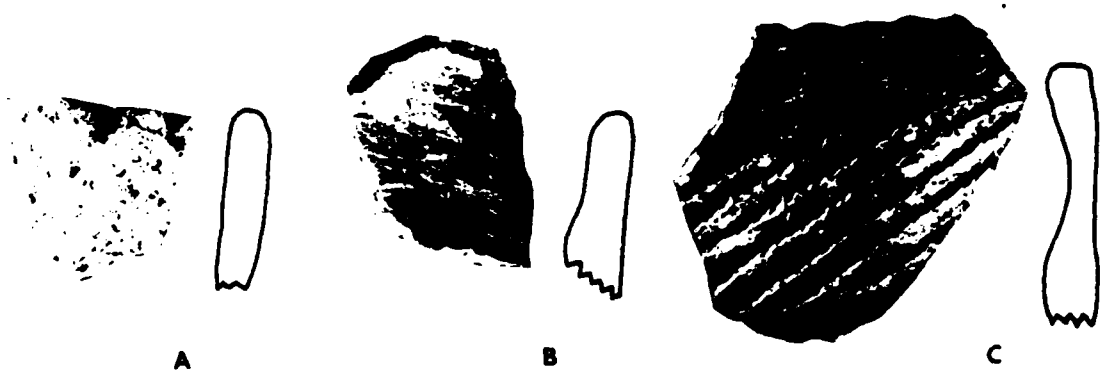
H. 32RM209: Cord-wrapped rod-impressed, grit-tempered rim sherd.

I. 32RM213: Cord-impressed, grit-tempered rim sherd.

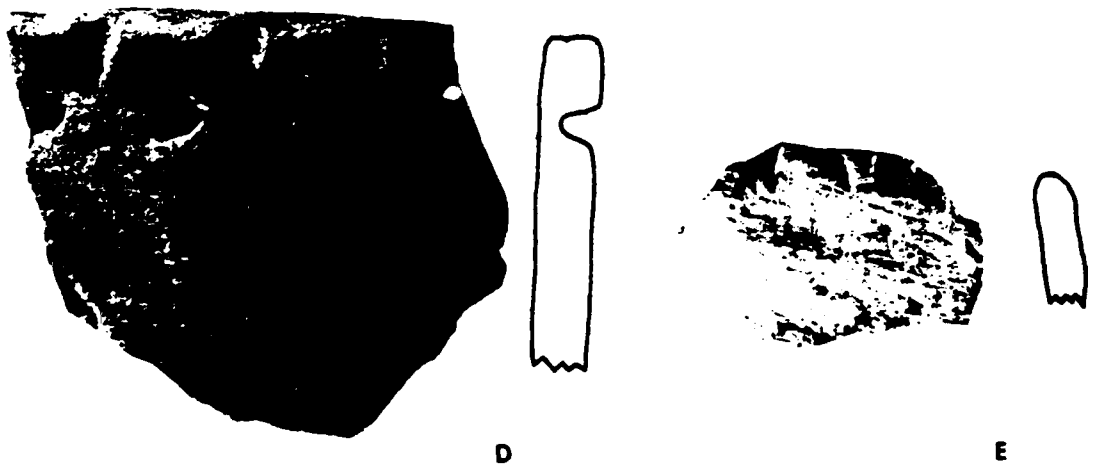
J. 32RM230: Fabric-impressed, grit-tempered rim sherd.

K. 32RM235: Cord-roughened, grit- and shell-tempered rim sherd.

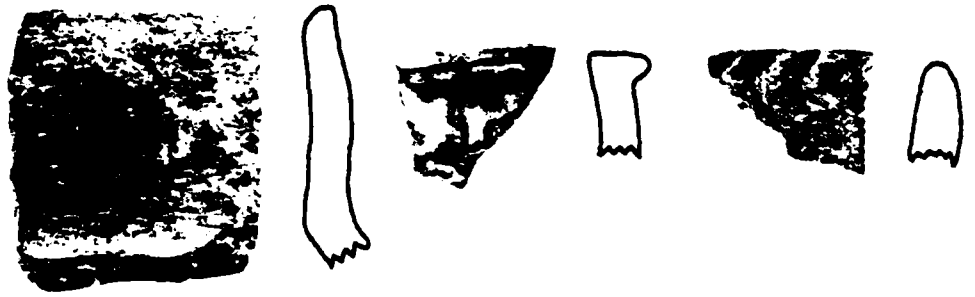
Scale: Actual Size



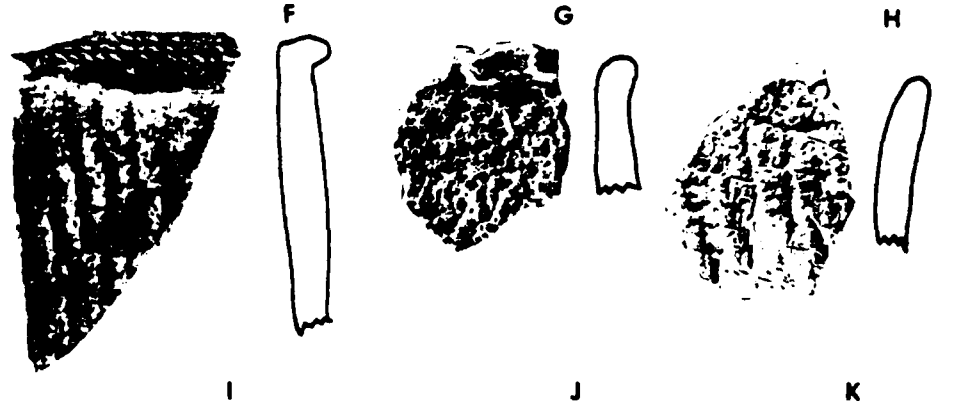
A B C



D E



F G H



I J K

FIGURE 7. RIM AND BODY SHERDS

A. 32RM235: Tool-impressed, shell-tempered rim sherd.

B. 32CS205: Cord-roughened, shell-tempered body sherd.

C. 32GG221: Fabric-impressed, grit-tempered body sherd.

D. 32GG221: Simple-stamped, grit-tempered body sherd.

E. 32GG233: Cord-roughened, grit-tempered body sherd.

F. 32GG227: Check-stamped, grit-tempered body sherd.

G. 32RM204: Cord-roughened, grit-tempered body sherd.

H. 32RM204: Cord-roughened, shell-tempered body sherd.

I. 32RM209: Simple-stamped, shell-tempered body sherd.

J. 32RM209: Cord-wrapped rod-impressed, grit-tempered body sherd.

K. 32RM209: Trailed, grit-tempered body sherd.

L. 32RM209: Engraved, grit-tempered body sherd.

M. 32RM209: Cord-roughened, shell-tempered body sherd.

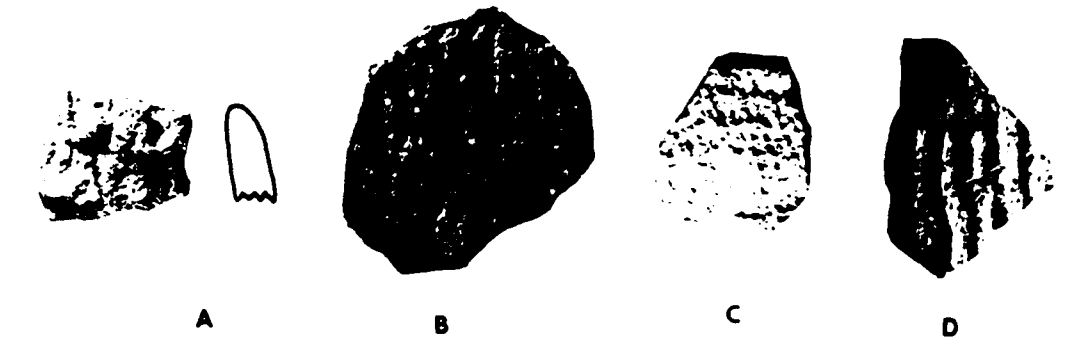
N. 32RM209: Plain, shell-tempered body sherd.

O. 32RM230: Fabric-impressed, grit-tempered body sherd.

P. 32RM230: Grit-tempered pipe fragment.

Q. 32CS205: Bone bead.

Scale: Actual Size



A B C D

E F G H

I J K L M

N O P Q

FIGURE 8. PROJECTILE POINTS AND BIFACES

A. 32CS201: Corner-notched point.

B. 32CS201: Corner-notched point.

C. 32CS201: Side-notched point.

D. 32CS201: Triangular unnotched point.

E. 32CS201: Distal point fragment.

F. 32CS201: Corner-notched point.

G. 32CS201: Corner-notched point.

H. 32CS201: Side-notched point.

I. 32CS204: Reworked projectile point.

J. 32GG222: Triangular unnotched point.

K. 32GG222: Triangular unnotched point.

L. 32RM234: Projectile point fragment.

M. 32RM234: Point midsection.

N. 32RM235: Triangular unnotched point.

O. 32RM238: Side-notched point.

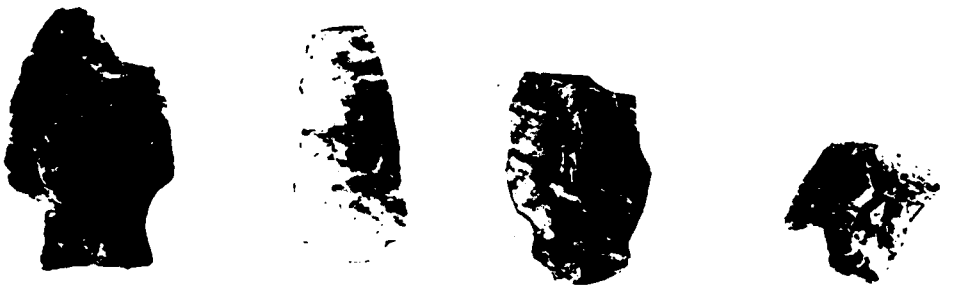
P. 32RM240: Corner-notched point.

Q. 32CS201: Biface fragment.

R. 32CS204: Biface fragment.

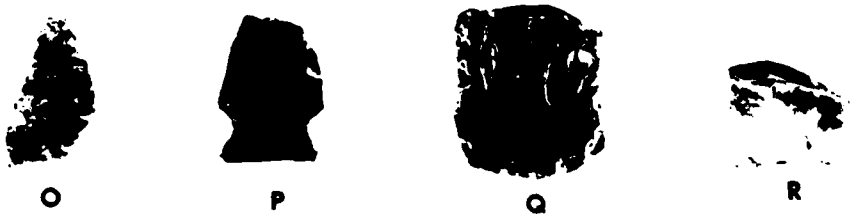
Scale: Actual Size

A B C D E



F G H I

J K L M N



O P Q R

FIGURE 9. BIFACES

A. 32GG221: Biface fragment.

B. 32GG223: Biface.

C. 32GG223: Biface fragment.

D. 32GG227: Biface fragment.

E. 32GG227: Biface fragment.

F. 32RM204: Biface.

G. 32RM204: Biface fragment.

H. 32RM219: Biface fragment.

I. 32RM219: Biface fragment.

J. 32RM234: Biface fragment.

K. 32RM234: Biface fragment.

Scale: Actual Size

A B C D

E F G H

I J K

FIGURE 10. BIFACE AND SIDE AND END SCRAPERS

A. 32RM234: Biface fragment.

B. 32CS201: Side scraper.

C. 32CS201: Side scraper.

D. 32CS201: End scraper.

E. 32CS201: End scraper.

F. 32CS201: End scraper.

G. 32CS204: Side scraper.

H. 32CS204: Side scraper.

I. 32GG227: End scraper.

J. 32RM204: Flake scraper.

K. 32RM219: End scraper.

L. 32RM219: End scraper.

M. 32RM230: End scraper.

N. 32RM230: Side scraper.

Scale: Actual Size


A
B
C
D
E
F
G
H
I
J
K
L
M
N

FIGURE 11. SCRAPERS, GROUND STONE, AND CHOPPERS

A. 32RM230: Flake knife.

B. 32RM234: End scraper.

C. 32RM235: End scraper.

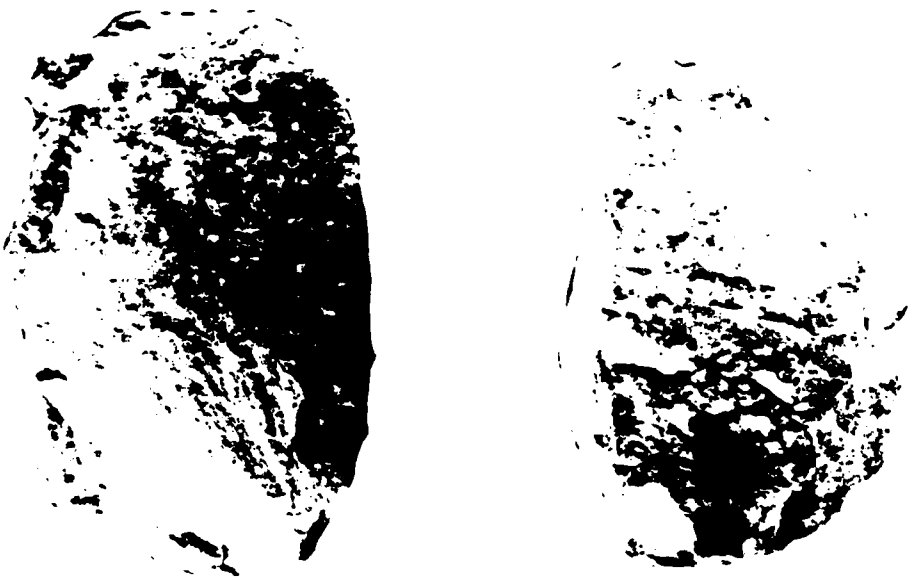
D. 32CS204: Hammerstone.

E. 32GG225: Chopper.

F. 32RM219: Chopper.

Scale: Actual Size

A B C D



E F

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TABLE 6

SUMMARY OF ARCHAEOLOGICAL SITES ALONG THE SHEYENNE RIVER VALLEY, NORTH DAKOTA

Site Number	Location	Quadrangle	Site Type
32RS201	SW¼ SW¼ Sec. 10 and NW¼ Sec. 15 T141N R49W	Argusville	Campsite
32RS202	NW¼ and SW¼ NW¼ SW¼ Sec. 19 T140N R49W	West Fargo	Campsite
32RS203	SE¼ NW¼ SW¼ Sec. 19 T140N R49W	West Fargo	Historic
32RS204	NW¼ NW¼ Sec. 19 T140N R49W	West Fargo	Campsite
32RS205	NW¼ NE¼ Sec. 5 T140N R49W	West Fargo	Campsite
32RS206	N½ SE¼ SW¼ Sec. 13 T141N R49W	Georgetown, Minn.-N.Dak.	Campsite
32RG221	SW¼ NW¼ and SW¼ SW¼ Sec. 10 T145N R58W	Cooperstown East	Campsite
32RG222	NE¼ SW¼ SE¼ Sec. 10 T145N R58W	Cooperstown East	Campsite
32RG223	SE¼ NE¼ Sec. 9 and SW¼ SW¼ SW¼ Sec. 10 T145N R58W	Cooperstown East	Campsite
32RG224	NW¼ SE¼ NW¼ Sec. 9 T145N R58W	Cooperstown East	Mound
32RG225	NE¼ NE¼ Sec. 9 and NW¼ NW¼ Sec. 10 and SE¼ SE¼ SE¼ Sec. 4 and SW¼ SW¼ SW¼ Sec. 3 T145N R58W	Cooperstown East	Campsite
32RG226	NW¼ SE¼ NE¼ Sec. 10 T145N R58W	Cooperstown East	Mound
32RG227	NW¼ NE¼ and NE¼ NW¼ Sec. 3 T145N R58W	Cooperstown East	Campsite
32RG228	SE¼ SW¼ NE¼ Sec. 3 T145N R58W	Cooperstown East	Linear Mounds
32RG229	SW¼ SW¼ NE¼ Sec. 15 T145N R58W	Cooperstown East	Campsite
32RG230	NE¼ SE¼ SE¼ Sec. 16 T145N R58W	Karnak	Historic
32RG231	NE¼ NW¼ SW¼ Sec. 26 T146N R58W	Cooperstown East	Campsite
32RG232	SW¼ NW¼ Sec. 26 T146N R58W	Cooperstown East	Campsite
32RG233	SE¼ NE¼ NE¼ Sec. 34 T146N R58W	Cooperstown East	Campsite
32RG234	NE¼ NE¼ SW¼ Sec. 3 T145N R58W	Cooperstown East	Campsite
32RG235	NE¼ SE¼ NW¼ Sec. 3 T145N R58W	Cooperstown East	Campsite
32RG236	NW¼ SW¼ NE¼ Sec. 23 T145N R58W	Karnak	Campsite
32RM202	NW¼ NE¼ NE¼ Sec. 17 T135N R54W	Sheldon	Campsite
32RM203	NE¼ SW¼ Sec. 13 T135N R54W	Sheldon	Campsite
32RM204	NE¼ and NW¼ NW¼ Sec. 13 T135N R54W	Sheldon	Campsite
32RM205	NW¼ NW¼ NE¼ Sec. 17 T135N R54W	Sheldon	Campsite
32RM206	NW¼ SE¼ Sec. 11 T135N R54W	Sheldon	Campsite
32RM207	SW¼ NE¼ NE¼ Sec. 18 T135N R54W	Sheldon	Mound
32RM208	SW¼ NE¼ Sec. 18 T135N R54W	Sheldon	Campsite
32RM209	NE¼ NW¼ NW¼ Sec. 15 T135N R53W	Coburn	Campsite
32RM210	S½ NE¼ NE¼ Sec. 17 T135N R53W	Coburn	Campsite
32RM211	N½ NE¼ NW¼ Sec. 16 T135N R53W	Coburn	Campsite
32RM212	NE¼ NW¼ NE¼ Sec. 17 T135N R53W	Coburn	Campsite
32RM213	W½ NE¼ and NE¼ NW¼ NE¼ Sec. 16 T135N R53W	Coburn	Campsite
32RM214	SW¼ SW¼ SW¼ Sec. 10 T135N R53W	Coburn	Campsite
32RM215	N½ SW¼ SE¼ Sec. 10 T135N R53W	Coburn	Campsite
32RM216	E½ SE¼ NW¼ and W½ SW¼ NE¼ Sec. 19 T135N R53W	Venlo	Historic
*32RM217	SE¼ NE¼ NE¼ Sec. 1 T133N R55W	Lisbon SE	Mound
*32RM218	SW¼ NW¼ NE¼ Sec. 1 T133N R55W	Lisbon SE	Mound
*32RM219	NW¼ NW¼ Sec. 6 T133N R54W	Lisbon SE	Mound
*32RM220	NE¼ NE¼ Sec. 6 T133N R54W	Lisbon SE	Mound
*32RM221	NE¼ NE¼ NW¼ Sec. 6 T133N R54W	Lisbon SE	Historic
*32RM222	NE¼ NE¼ NW¼ Sec. 6 T133N R54W	Lisbon SE	Mound
*32RM223	NW¼ NW¼ NE¼ Sec. 6 T133N R54W	Lisbon SE	Village site
*32RM224	NW¼ NE¼ NW¼ Sec. 5 T133N R54W	Lisbon SE	Mound
*32RM225	SW¼ SW¼ SE¼ Sec. 31 T134N R54W	Lisbon SE	Earthen Embankment
*32RM226	NE¼ SE¼ SW¼ Sec. 31 T134N R54W	Lisbon SE	Campsite
32RM227	NW¼ SE¼ NE¼ Sec. 33 T134N R55W	Lisbon NE	Tipi Ring Site
*32RM228	NW¼ SW¼ NW¼ Sec. 34 T134N R55W	Lisbon NE	Mound
32RM229	NE¼ NW¼ NW¼ Sec. 32 T134N R55W	Lisbon	Historic
*32RM230	NE¼ NE¼ NE¼ Sec. 1 T133N R55W	Lisbon SE	Campsite
32RM231	SW¼ SW¼ SW¼ Sec. 29 T134N R55W	Lisbon	Campsite
32RM232	NW¼ NW¼ SW¼ Sec. 33 T134N R55W	Lisbon NE	Mound
32RM233	NW¼ NW¼ SW¼ Sec. 33 T134N R55W	Lisbon NE	Mound
32RM234	SE¼ NW¼ NE¼ Sec. 27 T134N R56W	Lisbon	Campsite
32RM235	NW¼ SW¼ SW¼ Sec. 18 T135N R53W	Sheldon	Campsite
32RM236	SE¼ SE¼ SW¼ Sec. 11 T135N R53W	Sheldon	Excavated Mound
32RM237	NW¼ NW¼ SE¼ Sec. 27 T134N R56W	Lisbon	Campsite
32RM238	SW¼ NE¼ SE¼ Sec. 27 T134N R56W	Lisbon	Campsite
32RM239	SE¼ SE¼ NE¼ Sec. 27 T134N R56W	Lisbon	Campsite
*32RM240	NE¼ NE¼ SE¼ Sec. 22 T134N R56W	Lisbon	Campsite

*Sites which may not be affected by the various proposed flood control alternatives under the present Contract.

APPENDIX 1

LIST OF LANDOWNERS AND TENTANTS CONTACTED IN THE VARIOUS AREAS

Area 1

*1. John Anderson
2. William C. Dahnke
3. Darwin Eklund
4. Mr. Elleson
*5. Edmund Ellingston
6. George Freedland
*7. Jim Hoglund
8. Mr. Kragnes
*9. Mr. Kundert
10. C.R. Landblom
11. Russel Landblom
12. Allen Loberg
13. Mr. Nudell
*14. Mr. Rudd
15. Mr. Tehven
*16. Mr. Updahl

Area 2

1. Mr. Anderson
2. Clarence Balken
*3. Kenneth Beaton
*4. Lawrence Beaton
5. Johanna Benson
*6. Mr. Benson
7. Joseph Brakken
8. Edna Brink
9. Robert Brink
10. Mrs. Clemenson
*11. Ben Halverson
*12. O. Heiden
13. Olaf Knutson
14. Mr. Linblad
15. Carl Loberg
16. D. Loberg
17. Herb Loberg
18. L. Loberg
19. Olaf Loberg
20. Robert Loberg
*21. M. Lund
22. Mr. McLoud
23. Oscar Rustad
24. Mr. Sameulson

Area 3

*1. D. Bakko
*2. Martell Erickson
3. Gordon Fjelstad
4. Jerome Fjelstad
5. Mr. Grienhocker
*6. Caroll Johnson
7. John Nellmore
8. Mr. Nipstid
*9. Abner Owens
10. A.E. Perhus
*11. Carl Poppin
12. A. Rustad

* Indicates that person not at home.

Area 4

1. Everlyn Anderson
*2. Lester Anderson
*3. Vigner Bratland
4. Albert K. Ekre
5. Earl Heath
6. Loren Herrid
7. Lyle Jensen
*8. John Kaspari
*9. David Kaspari
10. Ole Larson
*11. Mr. Luback
12. Peter McRitchie
13. Robert McRitchie
14. Duane Nestor
15. Jordan Nokelberg
*16. Lowell Olson
17. Ed Painter
18. Bill Penberthy
19. Orville Pfingston
20. Mrs. Donny Rustad
21. James Sagvold
22. David Sandvig
23. Virgil Schultz
*24. Bristol Swanson
*25. Irving Swenson
26. Alvin Wall
*27. John Warner

Area 5

*1. Richard C. Bleeker
2. Larry Erdmann
*3. Duane Hanson
4. Donald Hock
*5. Phil McMahon
6. Almont Strand

Area 6

*1. Wesley Alinder
2. Arthur Balderson
*3. Ernest L. Carter
4. Lawrence Dick, Jr.
5. Steven Dick
6. Don Elijah
7. Arley Hammer
8. Maurice Hammer
9. Leslie Hankel
10. Wayne Hermanson
*11. James Jenson
*12. Albin Krchnavy
13. Emil Krchnavy
14. Stanley Krchnavy
*15. Larry Lesman
*16. Robert Mollenkamp
17. Lemoine Olson
18. Michael Olson
19. Robert Olson
*20. Herbert Mairs
*21. Willard Mairs
22. Harry Schoonover
*23. Melvin Seelye
24. Clayton Shipton
25. Dwight Tanner
26. Raymond Urbach

Area 8

*1. Mrs. Eleanor Clark
2. Emanuel Erickson
3. Steve Froilund
4. Lester Larson
5. Harlow Loge
6. David Lunde
7. Climon R. Olson
8. Orville Tranby
9. Edward Vigesaa
*10. Mrs. Carl Wittenberg

*
Indicates that person not home.

CURRICULUM VITAE

PII Redacted

RAIN VEHIK [redacted]

Office Address: Archaeological Research and
Management Center
1808 Newton Drive
Room 116
Norman, Oklahoma 73019

[redacted]

EDUCATION: B.A. University of Arkansas, 1965 (Anthropology)
M.A. Wichita State University, 1967 (Anthropology)
Ph.D. University of Missouri-Columbia, 1978 (Anthropology)

AREAS OF SPECILIZATION: North American Archaeology, Lithic Analysis, North American Indians, Cultural Change, Archaeological Methods.

POSITIONS: Project Director, Clayton Archaeological Project, Archaeological Research and Management Center, University of Oklahoma, 1978-present.
Assistant Professor (Anthropology), University of Wisconsin-La Crosse, 1974-1978.
Principal Investigator, Sheyenne River Archaeological Survey, 1977.
Research Associate, University of North Dakota, Summer 1974, 1975.
Teaching Assistant, University of Missouri-Columbia, 1970-1974.
Research Assistant, University of Missouri-Columbia, 1969, 1970.
Archaeological Survey Assistant, University of Missouri-Columbia, 1968-1969.
Instructor, Wichita State University, Summer 1968.
Teaching Assistant, University of Utah, 1967-1968.
Teaching Assistant, Wichita State University, 1966-1967.
Field Assistant, Wichita State University, 1966.

FIELD WORK: Oklahoma 1978-present.
Wisconsin 1974-1978.
North Dakota, Summer 1974, 1975, Fall 1977.
South Dakota 1975.
Missouri, Spring and summer 1969 and Summer 1970.
Utah Spring 1968.
Kansas Summer 1966, 1967, 1968.
Arkansas, Summer 1964, 1965.

FELLOWSHIPS AND GRANTS: NDEA Title IV Fellowship.

LANGUAGE COMPETENCY: Fair in reading, speaking, and writing Estonian; Fair in reading German.

COURSES TAUGHT: Archaeological Field School, Archaeology (emphasis on World Archaeology and Methods), Physical Anthropology, Introduction to Physical Anthropology and Archaeology, North American Prehistory, Introduction to Anthropology, Peoples of the World, North American Indians.

RESEARCH INTERESTS: Plains Prehistory, Lithic Analysis, Early Man in the New World, Cultural Ecology, Archaeological Methods, Cultural Change, Northern Plains Woodland.

PROFESSIONAL ORGANIZATIONS: American Anthropological Association, Society for American Archaeology, American Association of Physical Anthropologists, Wisconsin Archaeological Society, Minnesota Archaeological Society, Plains Conference, Oklahoma Anthropological Society, Iowa Archaeological Society, Pennsylvania Archaeological Society, Oklahoma Council of Archaeological Preservation.

PUBLICATIONS:

1978 An Analysis of Cultural Variability During the Late Woodland Period in the Ozark Highland of Southwest Missouri. Unpublished Ph.D. Dissertation. University of Missouri-Columbia.

1977a A Multivariate Analysis of the Fristoe Burial Complex in Southwestern Missouri. Plains Anthropologist, 22: 123-132.

1977b A Literature Review of Archaeological, Historical, and Paleontological Resurces of the Sheyenne River Basin in North Dakota. Report in conjunction with Susan Vehik submitted to the St. Paul District, U.S. Army Corps of Engineers.

1976 Archaeological Survey of the James River Valley, South-Central North Dakota: 1974. Report submitted to the U.S. Bureau of Reclamation.

1974 Archaeological Investigations in the Harry S. Truman Reservoir Area: 1970. Report submitted to the National Park Service, Midwest Archaeological Center, Lincoln, Nebraska.

1971 An Archaeological Survey of the Proposed Pattonsburg Reservoir, Missouri: 1969. Report submitted to the National Park Service, Midwest Archaeological Center, Lincoln, Nebraska.

1970 The Walters Site: A Fluted Point Manifestation in North-Central Missouri. Memoir No. 8. Missouri Archaeological Society. Columbia. In Conjunction with James Stoutamire and R. W. Biggs.

1967 An Archaeological Evaluation of South-Central Kansas. Unpublished M.A. Thesis, Wichita State University.

RESEARCH REPORTS:

1977a Lower Sheyenne River Archaeological Survey. St. Paul District, U.S. Army Corps of Engineers.

1977b An Archaeological Survey of U.S. Army Corps of Engineers Land Around La Crosse, Wisconsin. Submitted to St. Paul District, U.S. Army Corps of Engineers.

1976a An Archaeological Inventory and Evaluation of the Proposed Sewage Treatment Plant, Viroqua, Wisconsin: Final Report.

1976b An Archaeological Inventory and Evaluation of the Proposed Wastewater Treatment Site, Medary, Wisconsin: Final Report.

1975a Archaeological Survey of a Mississippi River Bottom Rail Loop. Report submitted to Dairyland Power Cooperative, La Crosse, Wisconsin.

1975b Archaeological Survey of the Black River Falls, Wisconsin Industrial Park. Report submitted to the U.S. Economic Development Agency, Chicago, Illinois.

PAPERS PRESENTED:

1978a Activity Patterning in a Late Woodland Rockshelter in Southwest Missouri. Contributed paper presented at the 36th. Annual Plains Conference. Denver.

1978b Archaeological Investigations in the Clayton Lake Project Area, Southeast Oklahoma: 1978. Paper presented in Section D, Social Sciences, at the Oklahoma Academy of Sciences Meeting. Stillwater. In conjunction with Christopher Lintz and Shelia J. Bobalik.

1978c Archaeological Survey in the Sheyenne River Valley, North Dakota. Research Report, Society for American Archaeology. Tucson.

1976a Archaeological Investigations in the James River Valley, North Dakota. Research Report, Society for American Archaeology.

1976b A Preliminary Analysis of Burial Customs in the Northern Plains. Contributed paper, Central States Anthropological Meetings. In Conjunction with Susan Vehik.

1975a Preliminary Analysis of the Quast Site, North Dakota. Field Report, Plains Conference. In conjunction with Susan Vehik.

1975b Archaeological Investigations in the James River Valley, North Dakota. Research Report, Society for American Archaeology.

1975c Test Excavations Along the James River, South-Central North Dakota. Field Report, Plains Conference.

1974a Archaeological Survey Along the James River Valley in South-Central North Dakota. Field Report, Plains Conference.

1974b A Re-evaluation of the Taxonomic Position of the Great Bend Aspect. Symposium: Introduction to Mapping Multivariate Dimensions and Clusters: Snapshots of the Anthropological Data. Central States Anthropological Society.

1973 A Quantitative Analysis of the Great Bend Aspect. Contributed paper, Plains Conference.

1972 A Multivariate Analysis of the Fristoe Burial Complex. Contributed paper, Plains Conference.

1970 Archaeological Investigations in the Truman Reservoir, Missouri: 1970. Field Report, Plains Conference.

1969 Archaeological Investigations in the Smithville Reservoir Missouri: 1969. Field Report, Plains Conference.

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1. An Archaeological Survey of Selected Portions of the Lower and Middle Sheyenne River Basin in North Dakota. Report to be submitted to the St. Paul District, U.S. Army Corps of Engineers.

2. Anderson Mound, 32RM234: A Late Burial Mound in Eastern North Dakota. To be sumbitted to Canadian Journal of Archaeology or Plains Anthropologist.

3. Spatial Analysis of a Late Woodland Rockshelter in Southwest Missouri. To be submitted to Midcontinental Journal of Archaeology.

4. Rock Mounds in Northern Oklahoma. Chapter to be included in Prehistory of Oklahoma, edited by Robert E. Bell.

5. Archaeological Excavations in the Clayton Reservoir: 1978. To be published in the next issue of the Oklahoma Anthropological Society Newsletter with Shelia J. Bobalik and Christopher Lintz.

6. Archaeological Test Excavations at the Buffalo Bend Site (34PU111), Southeast Oklahoma. To be published in an upcoming issue of the Oklahoma Anthropological Society Newsletter.